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DN 132:94908
TI Manufacture of spherical microparticles containing water-**insoluble**, branched polyglucan
IN Bengs, Holger; Grande, Juergen
PA Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany
SO Ger., 10 pp.
CODEN: GWXXAW
DT Patent
LA German
IC ICM C08L005-00
ICS C08J003-14; C08L003-00; B01D015-08; A61K009-16; C08B037-00
CC 44-4 (Industrial Carbohydrates)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19839216	C1	20000120	DE 1998-19839216	19980828
	CA 2340222	AA	20000309	CA 1999-2340222	19990814
	WO 2000012590	A1	20000309	WO 1999-EP5976	19990814
	W: AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9958521	A1	20000321	AU 1999-58521	19990814
	EP 1123342	A1	20010816	EP 1999-945981	19990814
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002523584	T2	20020730	JP 2000-567599	19990814
	US 6562459	B1	20030513	US 2001-786142	20010607
PRAI	DE 1998-19839216	A	19980828		
	WO 1999-EP5976	W	19990814		

AB The title particles, useful for chromatog. sepns., in diagnostic testing and as filler for polymers, are manufd. by dissolving a H2O-insol. polyglucan having degree of branching .ltoreq.8% or a mixt. of a linear and branched polyglucan (.ltoreq.30% of the latter based on total polysaccharides) in a solvent or mixt. of solvents and pptg. the particles by pouring the soln. into a cooled precipitant, e.g., H2O or DMSO. A suitable branched polysaccharide is .alpha.-amylase-resistant polyglucan and a suitable H2O-insol. linear polysaccharides are poly(1,4-.alpha.-D-glucan) and poly(1,3-.beta.-D-glucan) or their derivs. For example, Hylon VII was stirred with DMSO, the soln. sepd. by centrifugation, pptd. with BuOH, the ppt. dissolved in boiling H2O and repptd. with BuOH to give **amylose**-enriched starch. This (1.0 g) was dissolved in 5 mL DMSO at 60.degree., the soln. added dropwise with stirring to 100 mL H2O, the ppt. sepd. by centrifugation and washed to give the title particles.

ST microparticle spherical manuf branched polyglucan; starch **amylose** enriched spherical microparticle manuf; DMSO solvent branched polyglucan spherical microparticle manuf; water precipitant branched polyglucan spherical microparticle manuf

IT Diagnosis
(agents; manuf. of spherical microparticles contg. water-insol., branched polyglucan for use as)

IT Microspheres
(manuf. of spherical microparticles contg. water-insol., branched polyglucan)

IT Polysaccharides, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of spherical microparticles contg. water-insol., branched polyglucan)

IT Chromatographic stationary phases
(manuf. of spherical microparticles contg. water-insol., branched polyglucan for use as)

IT Fillers

(manuf. of spherical microparticles contg. water-insol., branched polyglucan for use as filler for polymers)

IT 9005-25-8D, Starch, **amylose**-enriched, processes 9051-97-2, 1,3-.beta.-D-Glucan
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of spherical microparticles contg. water-insol., branched polyglucan)

IT 9005-79-2, Glycogen, processes 9037-22-3, Amioca
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mixt. with 1,4-.alpha.-D-glucan; manuf. of spherical microparticles contg. water-insol., branched polyglucan)

IT 9051-96-1, 1,4-.alpha.-D-Glucan
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mixt. with glycogen; manuf. of spherical microparticles contg. water-insol., branched polyglucan)

IT 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(precipitant; manuf. of spherical microparticles contg. water-insol., branched polyglucan)

IT 67-68-5, DMSO, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(starch solvent; manuf. of spherical microparticles contg. water-insol., branched polyglucan)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; US 3947604 CAPLUS
(2) Anon; DE OS19729273
(3) Anon; DE OS19737481

=>

DN 72:128567
TI Occurrence of **insoluble** starch particles in enzymically saccharified starch solution
AU Komaki, Toshiaki
CS Nagase, and Co., Amagasaki, Japan
SO Denpun Kogyo Gakkaishi (1969), 17(1), 131-8
CODEN: DKOGAN; ISSN: 0416-9662
DT Journal; General Review
LA English
CC 2 (General Biochemistry)
AB A review. In enzymically liquefied and subsequently saccharified starch soln., some small particles often remain insol. A part of them is formed during the liquefaction. The other part comes from the raw material, of which potato starch produce s the least and corn starch the most. These insol. starch particles are presumably composed of **amylose**. 15 refs.
ST insol starch particles review; review insol starch particles; starch insol particles review; corn starch insol particles; potato starch insol particles
IT 9005-25-8, biological studies
RL: BIOL (Biological study)
(hydrolyzate, **insoluble** particles in enzymically saccharified)

=>

DN 89:145279
TI Importance of **insoluble amylose** as a determinant of rice quality
AU Bhattacharya, Kshirod R.; Sowbhagya, Chakrabhavi M.; Indudhara Swamy, Yelandur M.
CS Cent. Food Technol. Res. Inst., Mysore, India
SO Journal of the Science of Food and Agriculture (1978), 29(4), 359-64
CODEN: JSFAAE; ISSN: 0022-5142
DT Journal
LA English
CC 17-4 (Foods)
AB Thirty-two varieties of rice were divided into 5 groups depending on their total and hot water-insol. **amylose** (I) [9005-82-7] contents; the textural properties of the samples correlated well with the insol. I content. As the insol. I increased, the consistency and setback of rice increased and the stickiness and breakdown decreased. The alkali degrdn. type of rice and the equil. moisture content attained by the rice after soaking in water also seemed to be related to its quality.
ST rice quality **amylose**
IT Rice
(**amylose** of, quality in relation to)
IT 9005-82-7
RL: BIOL (Biological study)
(of rice, quality in relation to)

=>

DN 124:56471
TI Enzymic Modification of **Insoluble Amylose** in Organic Solvents
AU Bruno, Ferdinando F.; Akkara, Joseph A.; Ayyagari, Madhu; Kaplan, David L.; Gross, Richard; Swift, Graham; Dordick, Jonathan S.
CS Department of Chemical and Biochemical Engineering, University of Iowa, Iowa City, IA, 52242, USA
SO Macromolecules (1995), 28(26), 8881-3
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 33-5 (Carbohydrates)
AB **Amylose** was acylated by solubilized subtilisin Carlsberg in isooctane soln. contg. vinyl caprate as acyl donor. The reaction occurs only when the enzyme is solubilized via ion-pairing with the anionic surfactant Aerosol OT. The **amylose** is reactive either as a cryogenically milled powder suspended in the org. solvent or as a thin film deposited onto ZnSe slides. ESCA anal. of the first 100 .ANG. of the thin film indicates that the acylated surface had a degree of substitution of 0.9 acyl per chains per glucose moiety and this corresponded well to the expected regioselectivity of subtilisin catalysis on glucose-contg. compds. 1H-NMR confirmed that only the C-6 hydroxyl groups were acylated in the **amylose** mol. This approach represents the first attempt at using enzymes to modify org. solvent-insol. polymers in nonaq. media.
ST **amylose** acylation subtilisin org solvent
IT Polysaccharides, preparation
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(acylated derivs.; acylation of insol. **amylose** in org. solvents by subtilisin Carlsberg)
IT Acylation
Regiochemistry
(acylation of insol. **amylose** in org. solvents by subtilisin Carlsberg)
IT 9014-01-1, Subtilisin
RL: CAT (Catalyst use); USES (Uses)
(Carlsberg; acylation of insol. **amylose** in org. solvents by subtilisin Carlsberg)
IT 9005-82-7DP, **Amylose**, C-6 acylated derivs.
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(acylation of insol. **amylose** in org. solvents by subtilisin Carlsberg)
IT 540-84-1, Isooctane 577-11-7, Aerosol OT
RL: CAT (Catalyst use); USES (Uses)
(acylation of insol. **amylose** in org. solvents by subtilisin Carlsberg)
IT 4704-31-8, Vinyl caprate 9005-82-7, **Amylose**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of insol. **amylose** in org. solvents by subtilisin Carlsberg)

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DN 127:261734
TI Starch biosynthesis and modification of starch structure in transgenic plants
AU Kossmann, J.; Buttcher, V.; Abel, G. J. W.; Duwenig, E.; Emmermann, M.; Frohberg, C.; Lloyd, J. R.; Lorberth, R.; Springer, F.; Welsh, T.; Willmitzer, L.
CS Max-Planck-Institut Molekulare Pflanzenphysiologie, Golm, D-14476, Germany
SO Macromolecular Symposia (1997), 120(Functional Polysaccharides II), 29-38
CODEN: MSYMEC; ISSN: 1022-1360
PB Huethig & Wepf
DT Journal
LA English
CC 16-3 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 11, 44
AB Starch is synthesized through the ADP-glucose pathway, involving the 3 enzymes ADP-glucose pyrophosphorylase, starch synthase, and starch-branching enzyme. ADP-glucose pyrophosphorylase is the key enzyme of the pathway, detg. the flux of C into starch. It generates ADP-glucose, which is the substrate for the starch synthases, from glucose-1-phosphate and ATP releasing pyrophosphate. The enzyme is stimulated by 3-phosphoglycerate and inhibited through inorg. phosphate. The starch synthases, which catalyze the transfer of glucose from ADP-glucose to the nonreducing end of a growing .alpha.-1,4-glucan, are divided into 2 classes, the granule-bound starch synthases (GBSS) and the sol. starch synthases (SS). In both classes several isoforms were described from many different plant species. The branching enzyme, which introduces branch points into the amylopectin, can also occur in different isoforms. Other enzymes present in plants, which also act on .alpha.-**1,4-glucans**, such as the starch phosphorylases, disproportionating enzyme and different starch hydrolases, might also be important for detg. the starch structure and, therefore, its processibility. Many aspects of starch synthesis are not fully understood to date. Starch metab. can be manipulated through genetic engineering, either by the ectopic expression of different heterologous genes, or through the repression of the expression of endogenous genes using antisense RNA technol. This not only allows the functional anal. of starch biosynthetic proteins, but also the manipulation of starch structure in order to widen its industrial applications. In this way many different potato lines were generated, contg. either different amts. of starch, or which synthesize a structurally modified starch. These structural changes relate to the amylose content, the phosphate content, or the gelatinization and gelation characteristics of the starch.
ST potato transgene starch synthase DNA amylose
IT Enzymes, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(branching; starch biosynthesis and modification of starch structure in transgenic plants)
IT Food gelling
(starch biosynthesis and modification of starch structure in transgenic plants)
IT Potato (Solanum tuberosum)
(transgenic; starch biosynthesis and modification of starch structure in transgenic plants)
IT 9005-25-8P, Starch, biological studies 9030-10-8P, Starch synthase
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(starch biosynthesis and modification of starch structure in transgenic plants)
IT 9005-82-7, Amylose **9012-72-0**, Glucan 14265-44-2, Phosphate, biological studies

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(starch biosynthesis and modification of starch structure in transgenic plants)

=>

DN 130:236557
TI Manufacture of .alpha.-1,3-**1,4-glucans** with Aureobasidium and trisaccharide therefrom
IN Watanabe, Kimiko; Sakayanagi, Sadao; Mizutata, Yoshinori; Yagishita, Kazuhiro
PA Nippon Oil Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C12P019-04
ICS C12P019-04; C12R001-01
CC 16-4 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 17
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11056385	A2	19990302	JP 1997-230690	19970827
PRAI	JP 1997-230690		19970827		

AB The glucans having m/n = 2.4-2.9 and having mol. wt. .ltoreq.10,000,000, useful as materials for water-sol. film with low O permeability for enteric coating, capsules, food, cosmetics, agriculture, etc., are manufd. by culturing Aureobasidium. O-.alpha.-D-glucopyranosyl-(1.fwdarw.3)-O-.alpha.-D-glucopyranosyl-(1.fwdarw.4)-D-glucose (I), useful as a sweetener, etc., is manufd. by decompg. the glucan with .alpha.-amylase. A. pullulans was mutated with N-methyl-N'-nitro-N-nitrosoguanidine and a mutant forming colorless or less-colored colony named APW-1 (FERM P-15096) was batch-cultured in a medium contg. glucose and salts at 28.degree. for 4 days to give the glucan (m/n = 2.75:1). The glucan was treated with porcine liver .alpha.-amylase in an acetate buffer at 25.degree. for 30 h to give I.

ST glucan manuf Aureobasidium water sol film; fermn glucan Aureobasidium; glucose trisaccharide manuf decompn glucan amylase

IT Films
(edible; manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT Aureobasidium
Aureobasidium pullulans
Fermentation
(manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT 9000-90-2, .alpha.-Amylase
RL: CAT (Catalyst use); USES (Uses)
(glucan decompn. with; manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT 69924-34-1P
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT **9012-72-0P**, Glucan
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(.alpha.-1,3-1,4-; manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

DN 124:78735
TI Cloning and expression of Neisseria amylosucrase cDNA and production of alpha-**1,4-glucans** with plants, yeast, and microbes
IN Kosmann, Jens; Buettcher, Volker; Welsh, Thomas
PA Institut fuer Genbiologische Forschung Berlin GmbH, Germany
SO Ger. Offen., 42 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C12N015-54
ICS C12N015-82; A01H001-06; A01H005-00; C12N005-10; C12N001-21; C12N015-81; C12N001-19; C12N001-00; C12N009-10
ICA C12N015-70; C08B030-20
ICI C12N015-54, C12R001-36; C12N001-21, C12R001-19; C12N015-81, C12R001-865; C12N001-19, C12R001-865
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 10
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4417879	A1	19951123	DE 1994-4417879	19940518
	CA 2190149	AA	19951123	CA 1995-2190149	19950518
	AU 9526141	A1	19951205	AU 1995-26141	19950518
	AU 699552	B2	19981210		
	EP 759993	A1	19970305	EP 1995-920833	19950518
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	HU 76087	A2	19970630	HU 1996-3170	19950518
	JP 10500297	T2	19980113	JP 1995-529377	19950518
	US 6265635	B1	20010724	US 1997-737752	19970227
	US 2002092040	A1	20020711	US 2001-843007	20010426
PRAI	DE 1994-4417879	A	19940518		
	DE 1994-4447388	A	19941222		
	WO 1995-EP1893	W	19950518		
	US 1997-737752	A3	19970227		

AB The sequence of N. polysaccharea amylosucrase cDNA and of the **enzyme** are described. Plants, yeast, or microbes expressing this cDNA may be used to prep. .alpha.-**1,4-glucans**. Recombinant Escherichia coli secreting the N. polysaccharea amylosucrase were prepd. These recombinant bacteria converted sucrose to linear .alpha.-1,4-glucan.

ST Neisseria amylosucrase cDNA sequence; glucan manuf recombinant plant yeast microorganism

IT Neisseria
Neisseria polysaccharea
Plasmid and Episome
(cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Protein sequences
(of amylosucrase of Neisseria polysaccharea)

IT Bacteria
Escherichia coli
Microorganism
Plant cell
Saccharomyces cerevisiae
Yeast
(recombinant; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Corn
Oat

Plant
Potato
Rice
Sugarcane
Tobacco
Tomato
Wheat
(transgenic; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Deoxyribonucleic acid sequences
(complementary, for amylosucrase of Neisseria polysaccharea)

IT Plasmid and Episome
(pNB2, cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Beet
(sugar, transgenic; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 172725-89-2P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 9051-96-1P, .alpha.-1,4-Glucan
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 9032-11-5P, Amylosucrase
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 172725-90-5
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

=>

DN 81:90018
TI Lintnerized starches. Gel filtration and enzymic studies of **insoluble** residues from prolonged acid treatment of potato starch
AU Robin, J. P.; Mercier, C.; Charbonniere, R.; Guilbot, A.
CS Stn. Biochim. Phys. Chim. Cereales, Institute Natl. Rech. Agron., Massy, Fr.
SO Cereal Chemistry (1974), 51(3), 389-406
CODEN: CECHAF; ISSN: 0009-0352
DT Journal
LA English
CC 17-4 (Foods)
AB When percent solubilized carbohydrate was plotted against time of acid hydrolysis of potato starch up to 40 days, the curve showed an initial stage of high hydrolysis rate and a second step of low rate. Chem., x-ray, gel filtration, and enzymic studies revealed 2 major chain populations, the first with a d.p. of 25 and the second with a d.p. of 15. The former starch was singly branched while the latter occurred primarly as **linear** chains and was more acid-resistant and cryst. The **linear** chains had a length of 60 .ANG.. The branched chains were degraded rapidly and appeared not to participate in the cryst. areas. A new model of amylopectin contg. clusters of highly ordered chains of d.p. 15 is proposed.
ST potato starch granule organization; lintnerized starch granule organization
IT **9005-82-7** 9037-22-3
RL: BIOL (Biological study)
(of potato starch hydrolyzate, structure in relation to)
IT **9005-25-8**, properties
RL: PRP (Properties)
(of potatoes, structure of, hydrolysis in relation to)

=>

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NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Apr 21	Indexing from 1947 to 1956 being added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 39	May 16	CHEMREACT will be removed from STN
NEWS 40	May 19	Simultaneous left and right truncation added to WSCA
NEWS 41	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 42	Jun 06	Simultaneous left and right truncation added to CBNB
NEWS 43	Jun 06	PASCAL enhanced with additional data

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PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> s amylose
L1          517 AMYLOSE

=> s poly alpha glucan
         918122 POLY
        2565113 ALPHA
           3274 GLUCAN
L2            0 POLY ALPHA GLUCAN
                (POLY(W)ALPHA(W)GLUCAN)

=> s polylucan
```

```
L3            0 POLYLUCAN

=> s poly glucan
         918122 POLY
           3274 GLUCAN
L4            2 POLY GLUCAN
                (POLY(W)GLUCAN)

=> d l4 1-2

L4   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2003 ACS
RN   9015-78-5  REGISTRY
CN   Glucanase (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Cellulosin AC 10
CN   Cellulosin AF 10
CN   Glucan hydrolase
CN   Glucan hydrolyzing enzyme
CN   Polyglucan hydrolase
CN   Sumizyme TG
MF   Unspecified
CI   COM, MAN
LC   STN Files:   AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS,
       CHEMLIST, CIN, EMBASE, NAPRALERT, PIRA, PROMT, TOXCENTER, USPAT2,
       USPATFULL
     Other Sources:   EINECS**
         (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
             378 REFERENCES IN FILE CA (1957 TO DATE)
               6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             378 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L4   ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2003 ACS
RN   9012-72-0  REGISTRY
CN   D-Glucan (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   D-Glucosan
CN   Glucan
CN   Glucosan
CN   Poly-D-glucan
CN   Polyglucan
CN   Polyglucosan
DR   9037-91-6, 9072-21-3
MF   Unspecified
CI   PMS, COM, MAN
PCT  Manual registration
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
       CA, CANCERLIT, CAPLUS, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU,
       EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NAPRALERT, NIOSHTIC, PIRA,
       PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   EINECS**, NDSL**
         (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
            2001 REFERENCES IN FILE CA (1957 TO DATE)
             143 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            2004 REFERENCES IN FILE CAPLUS (1957 TO DATE)


=> file caplus
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COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        34.10      34.31

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FILE COVERS 1907 - 9 Jun 2003  VOL 138 ISS 24
FILE LAST UPDATED: 8 Jun 2003  (20030608/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s amylose
L5        9799 AMYLOSE

=> e amylose
E1           2     AMYLOSCOPE/BI
E2           1     AMYLOSCOPIC/BI
E3        9799 --> AMYLOSE/BI
E4           1     AMYLOSEAMINE/BI
E5           1     AMYLOSEBASED/BI
E6           1     AMYLOSEBUTYL/BI
E7           2     AMYLOSECARBAMATE/BI
E8           1     AMYLOSECEPHEM/BI
E9           1     AMYLOSECONTG/BI
E10          1     AMYLOSEDEXTRIN/BI
E11          1     AMYLOSEDICARBOXYLATE/BI
E12          4     AMYLOSEIODINE/BI

=> d his

     (FILE 'HOME' ENTERED AT 15:09:17 ON 09 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 15:09:27 ON 09 JUN 2003
L1          517 S AMYLOSE
L2            0 S POLY ALPHA GLUCAN
L3            0 S POLYLUCAN
L4            2 S POLY GLUCAN

     FILE 'CAPLUS' ENTERED AT 15:11:04 ON 09 JUN 2003
L5         9799 S AMYLOSE
                E AMYLOSE

=> e insoluble
E1           1     INSOLUBIZED/BI
E2           1     INSOLUBIZING/BI
E3       13180 --> INSOLUBLE/BI
```

```
E4            1     INSOLUBLEBUT/BI
E5            1     INSOLUBLED/BI
E6            1     INSOLUBLEIZED/BI
E7            1     INSOLUBLENESS/BI
E8            1     INSOLUBLER/BI
E9         1125     INSOLUBLES/BI
E10           1     INSOLUBLILIZING/BI
E11           1     INSOLUBLITY/BI
E12           6     INSOLUBLIZATION/BI

=> s e3
L6        13180 INSOLUBLE/BI

=> s l5 and l6
L7           35 L5 AND L6

=> d  l7 20-35

L7   ANSWER 20 OF 35  CAPLUS  COPYRIGHT 2003 ACS
AN   1991:79355  CAPLUS
DN   114:79355
TI   Chemoreception for an insoluble nonvolatile substance:  starch
     taste?
AU   Ramirez, Israel
CS   Monell Chem. Senses Cent., Philadelphia, PA, 19104-3308, USA
SO   American Journal of Physiology (1991), 260(1, Pt. 2), R192-R199
     CODEN: AJPHAP; ISSN: 0002-9513
DT   Journal
LA   English

L7   ANSWER 21 OF 35  CAPLUS  COPYRIGHT 2003 ACS
AN   1984:47511  CAPLUS
DN   100:47511
TI   A new amyloclastic method for the selective determination of
     .alpha.-amylase using cross-linked amylose as an
     insoluble substrate
AU   Mateescu, Mircea A.; Schell, Horst D.
CS   Inst. Biol. Sci., Bucharest, 77748/17, Rom.
SO   Carbohydrate Research (1983), 124(2), 319-23
     CODEN: CRBRAT; ISSN: 0008-6215
DT   Journal
LA   English

L7   ANSWER 22 OF 35  CAPLUS  COPYRIGHT 2003 ACS
AN   1983:472480  CAPLUS
DN   99:72480
TI   Amylose-amylopectin ratio of soluble and insoluble
     fractions of sweet potato starch granules treated with urea
AU   Uehara, Satoshi
CS   Dep. Home Econ., Kagawa Junior Coll., Zentsuji, 765, Japan
SO   Nippon Nogei Kagaku Kaishi (1983), 57(6), 529-33
     CODEN: NNKKAA; ISSN: 0002-1407
DT   Journal
LA   Japanese

L7   ANSWER 23 OF 35  CAPLUS  COPYRIGHT 2003 ACS
AN   1982:117935  CAPLUS
DN   96:117935
TI   A new amyloclastic method for the specific .alpha.-amylase determination
     using cross-linked amylose as an insoluble substrate
AU   Mateescu, M. A.
CS   Inst. Stiinte Biol., Bucharest, Rom.
```

SO Studii si Cercetari de Biochimie (1981), 24(2), 175-9
CODEN: SCBIA5; ISSN: 0049-2396
DT Journal
LA Romanian

L7 ANSWER 24 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1981:60253 CAPLUS
DN 94:60253
TI Unusual dextrans. Part XV. Structural analysis of **insoluble** D-glucans by Fourier-transform, infrared difference spectrometry: correlation between structures of dextrans from strains of Leuconostoc mesenteroides and of D-glucans from strains of Streptococcus mutans
AU Seymour, Fred R.; Julian, Robert L.; Jeanes, Allene; Lamberts, Burton L.
CS Texas Med. Cent., Baylor Coll. Med., Houston, TX, 77030, USA
SO Carbohydrate Research (1980), 86(2), 227-46
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English

L7 ANSWER 25 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1981:45695 CAPLUS
DN 94:45695
TI Simplified determination of water-**insoluble amylose** content of rice
AU Shanthy, A. P.; Sowbhagya, C. M.; Bhattacharya, K. R.
CS Discipline Rice Pulse Technol., Cent. Food Technol. Res. Inst., Mysore, 570013, India
SO Starch/Staerke (1980), 32(12), 409-11
CODEN: STARDD; ISSN: 0038-9056
DT Journal
LA English

L7 ANSWER 26 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1979:486557 CAPLUS
DN 91:86557
TI Gamma irradiation of high **amylose** corn starch. V. The properties of **insoluble** residues from irradiated amylomaize starch
AU Watanabe, Yukio; Ayano, Yuko; Obara, Tetsujiro
CS Fac. Hortic., Chiba Univ., Matsudo, Japan
SO Denpun Kagaku (1977), 24(3), 59-66
CODEN: DPNKAV; ISSN: 0366-9580
DT Journal
LA Japanese

L7 ANSWER 27 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1978:545279 CAPLUS
DN 89:145279
TI Importance of **insoluble amylose** as a determinant of rice quality
AU Bhattacharya, Kshirod R.; Sowbhagya, Chakrabhavi M.; Indudhara Swamy, Yelandur M.
CS Cent. Food Technol. Res. Inst., Mysore, India
SO Journal of the Science of Food and Agriculture (1978), 29(4), 359-64
CODEN: JSFAAE; ISSN: 0022-5142
DT Journal
LA English

L7 ANSWER 28 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1975:412684 CAPLUS
DN 83:12684
TI Lintnerized starches. Chromatographic and enzymic studies of

insoluble residues from hydrochloric acid hydrolysis of cereal starches, particularly waxy maize [starch]
AU Robin, J. P.; Mercier, C.; Duprat, F.; Charbonniere, R.; Guilbot, A.
CS Massy, Fr.
SO Staerke (1975), 27(2), 36-45
CODEN: STRKA6; ISSN: 0038-9056
DT Journal
LA French

L7 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1974:436632 CAPLUS
DN 81:36632
TI Nature of **insoluble** starch particles in liquefied corn starch hydrolyzates
AU Hebeda, R. E.; Leach, H. W.
CS Biochem. Res. Dep., CPC Int., Argo, IL, USA
SO Cereal Chemistry (1974), 51(2), 272-81
CODEN: CECHAF; ISSN: 0009-0352
DT Journal
LA English

L7 ANSWER 30 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1971:135442 CAPLUS
DN 74:135442
TI Water-**insoluble** enzyme. 1. General properties of CM-cellulose glucoamylase
AU Maeda, Hidekatsu; Suzuki, Hideo
CS Ferment. Res. Inst., Chiba, Japan
SO Nippon Nogei Kagaku Kaishi (1970), 44(12), 547-55
CODEN: NNKKAA; ISSN: 0002-1407
DT Journal
LA Japanese

L7 ANSWER 31 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1970:128567 CAPLUS
DN 72:128567
TI Occurrence of **insoluble** starch particles in enzymically saccharified starch solution
AU Komaki, Toshiaki
CS Nagase, and Co., Amagasaki, Japan
SO Denpun Kogyo Gakkaishi (1969), 17(1), 131-8
CODEN: DKOGAN; ISSN: 0416-9662
DT Journal; General Review
LA English

L7 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1970:113051 CAPLUS
DN 72:113051
TI Encapsulation of water **insoluble** materials with a high-amylase cornstarch composition
IN Wurzburg, Otto B.; Trubiano, Paolo C.; Herbst, William
PA National Starch and Chemical Corp.
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3499962	A	19700310	US 1967-662858	19670824
PRAI	US 1967-662858		19670824		

L7 ANSWER 33 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1967:484877 CAPLUS
DN 67:84877
TI Water-**insoluble** vitamin A compositions
IN Anderson, Lawrence Anthony
PA Eastman Kodak Co.
SO Brit., 8 pp.
CODEN: BRXXAA
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1072795		19670621		
PRAI	US		19630828		

L7 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1967:7114 CAPLUS
DN 66:7114
TI Process for applying water-**insoluble** photographic ingredients in hydrophilic emulsions
PA Gevaert-Agfa N. V.
SO Neth. Appl., 18 pp.
CODEN: NAXXAN
DT Patent
LA Dutch
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 6600628		19660325		
PRAI	GB		19650125		

L7 ANSWER 35 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1925:14057 CAPLUS
DN 19:14057
OREF 19:1836e-g
TI Determination of starch in barley and wheat
AU Ling, A. R.; Nanji, D. R.; Harper, W. J.
SO J. Inst. Brewing (1924), 30, 838-45
DT Journal
LA Unavailable

=> d l7 5-19

L7 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 2001:142136 CAPLUS
DN 134:198085
TI Pulse-release preparations coated with film containing enteric polymers and water-**insoluble** polymers
IN Honda, Atsuko; Yamada, Toshiyasu; Osawa, Takashi
PA Tanabe Seiyaku Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001055322	A2	20010227	JP 1999-231388	19990818
PRAI	JP 1999-231388		19990818		

L7 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 2001:45194 CAPLUS
DN 134:105914
TI Water-**insoluble** derivatives of polyanionic polysaccharides
IN Miller, Robert J.; Xu, Xuejian
PA Genzyme Corporation, USA
SO U.S., 10 pp., Cont.-in-part of U.S. Ser. No. 703254.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6174999	B1	20010116	US 1992-833973	19920211
	US 4937270	A	19900626	US 1987-100104	19870918
	JP 09183804	A2	19970715	JP 1996-357953	19880826
	US 5017229	A	19910521	US 1990-543163	19900625
	WO 9220349	A1	19921126	WO 1992-US4212	19920519
	W: AU, CA, FI, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
	AU 9221434	A1	19921230	AU 1992-21434	19920519
	AU 670030	B2	19960704		
	EP 587715	A1	19940323	EP 1992-912424	19920519
	EP 587715	B1	20020925		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
	JP 06508169	T2	19940914	JP 1992-500263	19920519
	EP 1229050	A2	20020807	EP 2002-7980	19920519
	EP 1229050	A3	20030507		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC				
	AT 224916	E	20021015	AT 1992-912424	19920519
	US 5760200	A	19980602	US 1995-377949	19950125
	AU 9652267	A1	19960801	AU 1996-52267	19960513
	US 2001039336	A1	20011108	US 2001-757202	20010109
PRAI	US 1987-100104	A2	19870918		
	US 1990-543163	A2	19900625		
	US 1991-703254	A2	19910520		
	JP 1988-507745	A3	19880826		
	US 1992-833973	A	19920211		
	EP 1992-912424	A3	19920519		
	WO 1992-US4212	A	19920519		

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 2000:321540 CAPLUS
DN 132:336031
TI Transesterification of **insoluble** polysaccharides in presence of protease as catalyst
IN Akkara, Joseph A.; Kaplan, David L.; Bruno, Ferdinando F.; Dordick, Jonathan S.
PA The United States of America as Represented by the Secretary of the Army, USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6063916	A	20000516	US 1996-774329	19961127
	US 6228997	B1	20010508	US 1998-192209	19980710
	US 6210936	B1	20010403	US 1998-165043	19981001

```
     US 5981240        A    19991109       US 1998-173607   19981002
     US 6448050        B1   20020910       US 2000-639412   20000814
     US 6455285        B1   20020924       US 2000-639411   20000814
PRAI US 1996-774329    A1   19961127
     US 1998-165043    A3   19981001
RE.CNT  22     THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7   ANSWER 8 OF 35  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:161356  CAPLUS
DN   132:209380
TI   Production of microspheres containing water-insoluble linear
     polysaccharides
IN   Bengs, Holger; Grande, Jurgen
PA   Aventis Research & Technologies Gmbh & Co. Kg, Germany
SO   PCT Int. Appl., 32 pp.
     CODEN: PIXXD2
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
     ---------------    ----  --------       ---------------  --------
PI   WO 2000012589      A1    20000309       WO 1999-EP5975   19990814
         W:  AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE
     DE 19839212        A1    20000511       DE 1998-19839212 19980828
     DE 19839212        C2    20020523
     CA 2340727         AA    20000309       CA 1999-2340727  19990814
     AU 9955167         A1    20000321       AU 1999-55167    19990814
     EP 1117730         A1    20010725       EP 1999-941623   19990814
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     JP 2002523583      T2    20020730       JP 2000-567598   19990814
PRAI DE 1998-19839212   A     19980828
     WO 1999-EP5975     W     19990814
RE.CNT  4      THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7   ANSWER 9 OF 35  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:54222  CAPLUS
DN   132:94908
TI   Manufacture of spherical microparticles containing water-insoluble
     , branched polyglucan
IN   Bengs, Holger; Grande, Juergen
PA   Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany
SO   Ger., 10 pp.
     CODEN: GWXXAW
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
     ---------------    ----  --------       ---------------  --------
PI   DE 19839216        C1    20000120       DE 1998-19839216 19980828
     CA 2340222         AA    20000309       CA 1999-2340222  19990814
     WO 2000012590      A1    20000309       WO 1999-EP5976   19990814
         W:  AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE
     AU 9958521         A1    20000321       AU 1999-58521    19990814
     EP 1123342         A1    20010816       EP 1999-945981   19990814
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
```

IE, FI
JP 2002523584 T2 20020730 JP 2000-567599 19990814
US 6562459 B1 20030513 US 2001-786142 20010607
PRAI DE 1998-19839216 A 19980828
WO 1999-EP5976 W 19990814
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1999:818342 CAPLUS
DN 132:49347
TI Starch components in hot-water soluble and **insoluble** fractions of rice flour
AU Ramesh, Manoharan; Ali, Syed Zakiuddin; Bhattacharya, Kshirod R.
CS Department Grain Science Technology, Central Food Technological Research Institute, Mysore, 570013, India
SO Starch/Staerke (1999), 51(8-9), 308-310
CODEN: STARDD; ISSN: 0038-9056
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1999:100359 CAPLUS
DN 130:138562
TI Roles of water-**insoluble** carbohydrates in the gelatinization and retrogradation of rice starch
AU Hibi, Yoshiko
CS Dep. Life Style Studies, Sch. Human Cultures, Univ. Shiga, Hikone, 522, Japan
SO Starch/Staerke (1998), 50(11-12), 474-478
CODEN: STARDD; ISSN: 0038-9056
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1998:307727 CAPLUS
DN 129:27749
TI Chemically modified .beta.-cyclodextrins - efficient supramolecular carriers for the biphasic hydrogenation of water-**insoluble** aldehydes
AU Monflier, Eric; Tilloy, Sebastien; Castanet, Yves; Mortreux, Andre
CS Lab. Physico-chimie, Faculte Sciences, Lens, 18-62307, Fr.
SO Tetrahedron Letters (1998), 39(19), 2959-2960
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
OS CASREACT 129:27749
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1997:692690 CAPLUS
DN 127:336564
TI Surface modification of water-**insoluble** drug particles with starch

AU Rein, Hubert; Steffens, Klaus J.
CS Rheinische Friedrich Wilhelms Universitat, Bonn, D-53121, Germany
SO Starch/Staerke (1997), 49(9), 364-371
CODEN: STARDD; ISSN: 0038-9056
PB Wiley-VCH
DT Journal
LA English

L7 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1995:952058 CAPLUS
DN 124:56471
TI Enzymic Modification of **Insoluble Amylose** in Organic Solvents
AU Bruno, Ferdinando F.; Akkara, Joseph A.; Ayyagari, Madhu; Kaplan, David L.; Gross, Richard; Swift, Graham; Dordick, Jonathan S.
CS Department of Chemical and Biochemical Engineering, University of Iowa, Iowa City, IA, 52242, USA
SO Macromolecules (1995), 28(26), 8881-3
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English

L7 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1994:100336 CAPLUS
DN 120:100336
TI Hydrolysis of **insoluble amylose**: adsorption of amylolytic enzymes
AU Shevel'kova, A. N.; Sinitsyn, A. P.
CS M. V. Lomonosov Moscow State Univ., Russia
SO Biokhimiya (Moscow) (1993), 58(10), 1555-61
CODEN: BIOHAO; ISSN: 0320-9725
DT Journal
LA Russian

L7 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1994:100259 CAPLUS
DN 120:100259
TI Effect of synergism under combined action of .alpha.- and glucoamylases in soluble and **insoluble amylose**
AU Shevel'kova, A. N.; Sinitsyn, A. P.
CS M. V. Lomonosov Moscow State Univ., Russia
SO Biokhimiya (Moscow) (1993), 58(10), 1548-54
CODEN: BIOHAO; ISSN: 0320-9725
DT Journal
LA Russian

L7 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1993:519009 CAPLUS
DN 119:119009
TI Powdered preparations of water-**insoluble** cores with protective **amylose** shells
IN Schneider, Joachim U.; Schwarz, Gerhard; Grafen, Paul; Bewert, Wolfgang; Schumacher, Horst
PA BASF A.-G., Germany
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	DE 4120918	A1	19930107	DE 1991-4120918	19910625
	EP 525333	A1	19930203	EP 1992-109329	19920603
	R: CH, DE, DK, FR, GB, IT, LI				
	US 5290567	A	19940301	US 1992-894126	19920604
	CA 2070706	AA	19921226	CA 1992-2070706	19920608
	JP 05200273	A2	19930810	JP 1992-165948	19920624
	JP 07014474	B4	19950222		
PRAI	DE 1991-4120918		19910625		

L7 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1991:457253 CAPLUS
DN 115:57253
TI Preparation of water-**insoluble** derivatives of hyaluronic acid as surgical aids and drug delivery systems
IN Burns, James W.; Cox, Steven; Walts, Alan E.
PA Genzyme Corp., USA
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5017229	A	19910521	US 1990-543163	19900625
	WO 9200105	A1	19920109	WO 1991-US4543	19910625
	W: AU, FI, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	AU 9183924	A1	19920123	AU 1991-83924	19910625
	AU 660282	B2	19950622		
	EP 537292	A1	19930421	EP 1991-914691	19910625
	EP 537292	B1	19970409		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 05508161	T2	19931118	JP 1991-514243	19910625
	JP 3399526	B2	20030421		
	AT 151294	E	19970415	AT 1991-914691	19910625
	ES 2100954	T3	19970701	ES 1991-914691	19910625
	US 6174999	B1	20010116	US 1992-833973	19920211
	NO 9204875	A	19921216	NO 1992-4875	19921216
	US 5527893	A	19960618	US 1992-997298	19921223
	US 5760200	A	19980602	US 1995-377949	19950125
	US 6030958	A	20000229	US 1997-914320	19970818
	US 6235726	B1	20010522	US 1999-376266	19990818
	US 2001039336	A1	20011108	US 2001-757202	20010109
PRAI	US 1987-100104	A2	19870918		
	US 1990-543163	A	19900625		
	US 1991-703254	A2	19910520		
	WO 1991-US4543	A	19910625		
	US 1992-833973	A3	19920211		
	US 1994-176334	B1	19940103		
	US 1994-326058	A1	19941019		
	US 1997-914320	A3	19970818		

L7 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1991:203434 CAPLUS
DN 114:203434
TI Adhesion of Lactobacillus amylovorus to **insoluble** and derivatized cornstarch granules
AU Imam, Syed H.; Harry-O'Kuru, R. E.
CS Natl. Cent. Agric. Util. Res., U. S. Dep. Agric., Peoria, IL, 61604, USA
SO Applied and Environmental Microbiology (1991), 57(4), 1128-33
CODEN: AEMIDF; ISSN: 0099-2240
DT Journal

LA English

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L7 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 2001:45194 CAPLUS
DN 134:105914
TI Water-**insoluble** derivatives of polyanionic polysaccharides
IN Miller, Robert J.; Xu, Xuejian
PA Genzyme Corporation, USA
SO U.S., 10 pp., Cont.-in-part of U.S. Ser. No. 703254.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07H001-00
ICS C08B037-10; C08B011-12; A61K031-715
NCL 536021000
CC 63-7 (Pharmaceuticals)
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6174999	B1	20010116	US 1992-833973	19920211
	US 4937270	A	19900626	US 1987-100104	19870918
	JP 09183804	A2	19970715	JP 1996-357953	19880826
	US 5017229	A	19910521	US 1990-543163	19900625
	WO 9220349	A1	19921126	WO 1992-US4212	19920519
	W: AU, CA, FI, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
	AU 9221434	A1	19921230	AU 1992-21434	19920519
	AU 670030	B2	19960704		
	EP 587715	A1	19940323	EP 1992-912424	19920519
	EP 587715	B1	20020925		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
	JP 06508169	T2	19940914	JP 1992-500263	19920519
	EP 1229050	A2	20020807	EP 2002-7980	19920519
	EP 1229050	A3	20030507		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC				
	AT 224916	E	20021015	AT 1992-912424	19920519
	US 5760200	A	19980602	US 1995-377949	19950125
	AU 9652267	A1	19960801	AU 1996-52267	19960513
	US 2001039336	A1	20011108	US 2001-757202	20010109
PRAI	US 1987-100104	A2	19870918		
	US 1990-543163	A2	19900625		
	US 1991-703254	A2	19910520		
	JP 1988-507745	A3	19880826		
	US 1992-833973	A	19920211		
	EP 1992-912424	A3	19920519		
	WO 1992-US4212	A	19920519		

AB A water insol., biocompatible compn. that is formed by a method which combines, in an aq. mixt., a polyanionic polysaccharide, a nucleophile, and an activating agent, under conditions sufficient to form the compn. Also, a water insol., biocompatible compn. that is formed by a method which combines, in an aq. mixt., a polyanionic polysaccharide, a modifying compd., a nucleophile and an activating agent under conditions sufficient to form the compn. Hydrogels were prepd. from sodium hyaluronate, 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride (EDC) as an activating agent, and L-leucine Me ester hydrochloride as a nucleophile.

ST polysaccharide nucleophile modified prepn medical gel; hyaluronate amino acid modified prepn film

IT Alcohols, biological studies
Amides, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino, reaction products with polyanionic polysaccharides; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Amino acids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(esters, reaction products with polyanionic polysaccharides; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Medical goods
(films; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Films
(medical; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Polysaccharides, biological studies
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(reaction products with amino acid derivs.; water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Amines, biological studies
Amino acids, biological studies
Catecholamines, biological studies
Peptides, biological studies
Proteins, general, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(reaction products with polyanionic polysaccharides; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Nucleophiles
(reaction products with polyanionic polysaccharides; water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Amino acids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(salts, reaction products with polyanionic polysaccharides; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT Drug delivery systems
(water-insol. derivs. of polyanionic polysaccharides for drug delivery)

IT Biopolymers
Polymers, biological studies
Proteins, general, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(water-insol. derivs. of polyanionic polysaccharides for drug delivery)

IT Hydrogels
Medical goods
(water-insol. derivs. of polyanionic polysaccharides for medical use)

IT 22572-40-3, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide methiodide
25952-53-8, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride
50296-37-2, Bromotris(dimethylamino)phosphonium hexafluorophosphate
56602-33-6 94790-37-1 132705-51-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(activating agent; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT 62-53-3, Aniline, reactions 71-00-1, L-Histidine, reactions 109-55-7, 3-Dimethylaminopropylamine 156-87-6, 3-Amino-1-propanol 687-64-9, Lysine methyl ester 2133-40-6, L-Proline methyl ester hydrochloride 2592-95-2D, 1-Hydroxybenzotriazole, hydrate 2743-40-0, L-Leucine ethyl ester hydrochloride 5680-79-5, Glycine methyl ester hydrochloride 6306-52-1, L-Valine methyl ester hydrochloride 7517-19-3, L-Leucine methyl ester hydrochloride 7524-50-7, L-Phenylalanine methyl ester hydrochloride 9004-32-4, Carboxymethyl cellulose 9067-32-7, Sodium hyaluronate 10466-61-2, L-Leucinamide hydrochloride 13047-04-6, 3,4-Dihydroxyphenylamine 13047-04-6D, 3,4-Dihydroxyphenylamine, reaction product with sodium hyaluronate 18598-74-8, L-Isoleucine methyl ester hydrochloride 22888-60-4, L-Histidine methyl ester hydrochloride

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT 62-53-3DP, Aniline, reaction product with sodium hyaluronate 71-00-1DP, L-Histidine, reaction product with sodium hyaluronate, biological studies 109-55-7DP, 3-Dimethylaminopropylamine, reaction product with sodium hyaluronate 109-55-7DP, 3-Dimethylaminopropylamine, reaction products with CM-cellulose 156-87-6DP, 3-Amino-1-propanol, reaction product with sodium hyaluronate 687-64-9DP, L-Lysine methyl ester, reaction product with sodium hyaluronate 2133-40-6DP, L-Proline methyl ester hydrochloride, reaction product with sodium hyaluronate 2743-40-0DP, L-Leucine ethyl ester hydrochloride, reaction product with sodium hyaluronate 5680-79-5DP, Glycine methyl ester hydrochloride, reaction product with sodium hyaluronate 6306-52-1DP, L-Valine methyl ester hydrochloride, reaction product with sodium hyaluronate 7517-19-3DP, L-Leucine methyl ester hydrochloride, reaction product with sodium hyaluronate 7524-50-7DP, L-Phenylalanine methyl ester hydrochloride, reaction product with sodium hyaluronate 9000-11-7DP, CMC, reaction products with 3-dimethylaminopropylamine 9000-11-7DP, Carboxymethyl cellulose, reaction products with sodium hyaluronate 9067-32-7DP, Sodium hyaluronate, reaction products with amino acid derivs. 10466-61-2DP, L-Leucinamide hydrochloride, reaction product with sodium hyaluronate 18598-74-8DP, L-Isoleucine methyl ester hydrochloride, reaction product with sodium hyaluronate 22888-60-4DP, L-Histidine methyl ester hydrochloride, reaction product with sodium hyaluronate
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT 9004-61-9D, Hyaluronic acid, reaction products with nucleophiles 9005-49-6D, Heparin, reaction products with nucleophiles, biological studies 12768-31-9D, Carboxymethyl **amylose**, reaction products with nucleophiles 25322-46-7D, Chondroitin-6-sulfate, reaction products with nucleophiles 169799-18-2D, Dermatin sulfate, reaction products with nucleophiles
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

IT 14097-00-8, Amino thiol 27598-85-2, Amino phenol
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(reaction products with polyanionic polysaccharides; prepn. of water-insol. derivs. of polyanionic polysaccharides for medical use)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; EP 0193510 1986 CAPLUS
(2) Anon; GB 2151244 1986 CAPLUS
(3) Anon; WO 8600079 1986 CAPLUS
(4) Anon; WO 8600912 1986 CAPLUS
(5) Anon; EP 0224987 1987 CAPLUS
(6) Anon; EP 0244178 1987 CAPLUS
(7) Anon; EP 0291177 1988 CAPLUS
(8) Anon; EP 0416250 1991 CAPLUS
(9) Anon; WO A9401468 1994
(10) Anon; WO A9421299 1994
(11) Anon; EP 0705878 1996 CAPLUS
(12) Balazs; US 4582865 1986 CAPLUS
(13) Burns; US 5017229 1991 CAPLUS
(14) Danishefsky; Carbohydrate Research 1971, V16, P199 CAPLUS
(15) Feijen; US 4526714 1985 CAPLUS
(16) Hamilton; US 4937270 1990 CAPLUS
(17) Herrmann, K; Journal of Materials Science, Materials in Medicine 1994, V5(9), P728

(18) Larm; US 4810784 1989 CAPLUS
(19) Laurent; Acta Chemica Scandinavica 1964, V18, P274 CAPLUS
(20) Provonchee; US 4774093 1988 CAPLUS
(21) Sparer; Controlled Release Delivery Systems 1983, P107
(22) Zaffaroni; US 3998974 1976 CAPLUS

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L7 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 2000:321540 CAPLUS
DN 132:336031
TI Transesterification of **insoluble** polysaccharides in presence of protease as catalyst
IN Akkara, Joseph A.; Kaplan, David L.; Bruno, Ferdinando F.; Dordick, Jonathan S.
PA The United States of America as Represented by the Secretary of the Army, USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C08B003-00
ICS C08B031-02; C08B037-00
NCL 536124000
CC 44-5 (Industrial Carbohydrates)
Section cross-reference(s): 7, 33, 43
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6063916	A	20000516	US 1996-774329	19961127
	US 6228997	B1	20010508	US 1998-192209	19980710
	US 6210936	B1	20010403	US 1998-165043	19981001
	US 5981240	A	19991109	US 1998-173607	19981002
	US 6448050	B1	20020910	US 2000-639412	20000814
	US 6455285	B1	20020924	US 2000-639411	20000814
PRAI	US 1996-774329	A1	19961127		
	US 1998-165043	A3	19981001		

AB A method of esterifying org. solvent-insol. oligosaccharide or polysaccharide by enzymic catalysis comprises the steps of:(a) solubilizing an enzyme in a vol. of hydrophobic org. solvent provided with a surfactant by formation of enzyme-surfactant ion pairs, (b) initiating an esterification reaction by addn. to the vol. of hydrophobic org. solvent contg. the solubilized enzyme of (i) an oligosaccharide or polysaccharide to be esterified having at least one hydroxyl group available for esterification and (ii) a molar excess, relative to the no. of oligosaccharide or polysaccharide hydroxyl groups available for esterification, of an acyl group donor reagent, (c) allowing the esterification reaction to continue under incubation conditions, and (d) terminating the esterification reaction by washing the oligosaccharide or polysaccharide with a vol. of fresh hydrophobic org. solvent to remove any unreacted acyl donor reagent. The reaction occurs only when the bacillus subtilis protease enzyme is solubilized via ion-pairing with the anionic surfactant dioctyl sulfosuccinate, sodium salt (AOT). Enzyme based acylation was demonstrated with **amylose**, cyclodextrins, cellulose, cellulose derivs., and other polysaccharides such as chitosan, pullulan, and maltodextrose (sic). These polysaccharides are reactive either as a cryogenically milled powder suspended in the org. solvent or as a thin film deposited onto ZnSe slides. For chitosan, .alpha.-cyclodextrin, and hydroxyethyl cellulose (HEC), the enzymic crosslinking reaction occurs using adipic acid divinyl ester (C6DVE). HEC forms a compd. that gels in solvents such as Et alc. and di-Me sulfone

oxide (DMSO). Electron spectroscopy chem. anal. (ESCA) of the first 100 .ANG. of the **amylose** thin film **amylose** indicates that the acylated surface had a degree of substitution of 0.9.+-.0.1 acyl chains per glucose moiety and this corresponded well to the expected regioselectivity of subtilisin catalysis on glucose-contg. compds. 1 H-NMR studies indicated that only the C-6 hydroxyl groups of the glucose moiety were acylated with **amylose** and .gamma.-cyclodextrin. However, .beta.-cyclodextrin, and .alpha.-cyclodextrin were modified at secondary alcs. and at all three alcs., resp. This approach represents the first attempt at using enzymes to modify org. solvent-insol. polymers in nonaq. media.

ST polysaccharide transesterification protease catalyst regioselectivity; **insoluble** polysaccharide isooctane solvent acylation

IT Acylation catalysts
(bacillus subtilis protease enzyme; transesterification of insol. polysaccharides in presence of protease as catalyst)

IT Films
(in transesterification of insol. polysaccharides in presence of protease as catalyst)

IT Regiochemistry
(regioselectivity; transesterification of insol. polysaccharides in presence of protease as catalyst)

IT Bacillus subtilis
(transesterification of insol. polysaccharides in presence of protease as catalyst)

IT Enzymes, uses
RL: CAT (Catalyst use); USES (Uses)
(transesterification of insol. polysaccharides in presence of protease as catalyst)

IT Polysaccharides, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of insol. polysaccharides in presence of protease as catalyst)

IT 9001-92-7, Protease
RL: CAT (Catalyst use); USES (Uses)
(transesterification of insol. polysaccharides in presence of protease as catalyst)

IT 26635-64-3, Isooctane
RL: NUU (Other use, unclassified); USES (Uses)
(transesterification of insol. polysaccharides in presence of protease as catalyst)

IT 69-79-4, Maltose 7585-39-9, .beta.-Cyclodextrin 9004-34-6, Cellulose, reactions 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl cellulose 9005-82-7, **Amylose** 9012-76-4, Chitosan 9057-02-7, Pullulan 10016-20-3, .alpha.-Cyclodextrin 17465-86-0, .gamma.-Cyclodextrin 37353-59-6, Hydroxymethyl cellulose
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of insol. polysaccharides in presence of protease as catalyst)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bornemann; US 5141860 1992 CAPLUS
(2) Bruno, F; Macromolecules 1995, V28, P8881 CAPLUS
(3) Dordick; US 5474915 1995 CAPLUS
(4) Dordick, J; Microb Technol 1989, V11, P194 CAPLUS
(5) Gill, I; J Am Chem Soc 1994, V115, P3348
(6) Gonzalez; Carbohydrate Research 1994, V262, P271
(7) Holmberg; US 4839287 1989 CAPLUS
(8) Huhn; US 4614780 1986 CAPLUS
(9) Itoh, T; Polym J 1992, V24, P641 CAPLUS
(10) Klibanov, A; Acc Chem Res 1990, V23, P114 CAPLUS
(11) Klibanov, A; Trends Biochem Sci 1989, V14, P141 CAPLUS

(12) Kokusho; US 4624919 1986 CAPLUS
(13) Kuhl, P; Tetrahedron Lett 1990, V31, P5213 CAPLUS
(14) Lukaszewski, G; Lab Practice 1966, V15, P551 CAPLUS
(15) Mayer, J; Trends Polym Sci 1994, V2, P227 CAPLUS
(16) Negishi; US 5480787 1996 CAPLUS
(17) Padley; US 5508048 1996 CAPLUS
(18) Paradkar, V; J Am Chem Soc 1994, V116, P5009 CAPLUS
(19) Patil; Biotechnology and Bioengineering 1991, V37, P639 CAPLUS
(20) Rich; Biotechnology and Bioengineering 1995, V45, P426 CAPLUS
(21) Schneider; US 5508182 1996 CAPLUS
(22) Watanabe; Carbohydrate Research 1995, V275, P215 CAPLUS

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L7 ANSWER 9 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 2000:54222 CAPLUS
DN 132:94908
TI Manufacture of spherical microparticles containing water-**insoluble**, branched polyglucan
IN Bengs, Holger; Grande, Juergen
PA Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany
SO Ger., 10 pp.
CODEN: GWXXAW
DT Patent
LA German
IC ICM C08L005-00
ICS C08J003-14; C08L003-00; B01D015-08; A61K009-16; C08B037-00
CC 44-4 (Industrial Carbohydrates)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19839216	C1	20000120	DE 1998-19839216	19980828
	CA 2340222	AA	20000309	CA 1999-2340222	19990814
	WO 2000012590	A1	20000309	WO 1999-EP5976	19990814
	W: AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9958521	A1	20000321	AU 1999-58521	19990814
	EP 1123342	A1	20010816	EP 1999-945981	19990814
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002523584	T2	20020730	JP 2000-567599	19990814
	US 6562459	B1	20030513	US 2001-786142	20010607
PRAI	DE 1998-19839216	A	19980828		
	WO 1999-EP5976	W	19990814		

AB The title particles, useful for chromatog. sepns., in diagnostic testing and as filler for polymers, are manufd. by dissolving a H2O-insol. polyglucan having degree of branching .ltoreq.8% or a mixt. of a linear and branched polyglucan (.ltoreq.30% of the latter based on total polysaccharides) in a solvent or mixt. of solvents and pptg. the particles by pouring the soln. into a cooled precipitant, e.g., H2O or DMSO. A suitable branched polysaccharide is .alpha.-amylase-resistant polyglucan and a suitable H2O-insol. linear polysaccharides are poly(1,4-.alpha.-D-glucan) and poly(1,3-.beta.-D-glucan) or their derivs. For example, Hylon VII was stirred with DMSO, the soln. sepd. by centrifugation, pptd. with BuOH, the ppt. dissolved in boiling H2O and repptd. with BuOH to give **amylose**-enriched starch. This (1.0 g) was dissolved in 5 mL DMSO at 60.degree., the soln. added dropwise with stirring to 100 mL H2O, the ppt. sepd. by centrifugation and washed to give the title particles.
ST microparticle spherical manuf branched polyglucan; starch **amylose** enriched spherical microparticle manuf; DMSO solvent branched polyglucan

spherical microparticle manuf; water precipitant branched polyglucan spherical microparticle manuf
IT Diagnosis
(agents; manuf. of spherical microparticles contg. water-insol., branched polyglucan for use as)
IT Microspheres
(manuf. of spherical microparticles contg. water-insol., branched polyglucan)
IT Polysaccharides, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of spherical microparticles contg. water-insol., branched polyglucan)
IT Chromatographic stationary phases
(manuf. of spherical microparticles contg. water-insol., branched polyglucan for use as)
IT Fillers
(manuf. of spherical microparticles contg. water-insol., branched polyglucan for use as filler for polymers)
IT 9005-25-8D, Starch, **amylose**-enriched, processes 9051-97-2, 1,3-.beta.-D-Glucan
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of spherical microparticles contg. water-insol., branched polyglucan)
IT 9005-79-2, Glycogen, processes 9037-22-3, Amioca
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mixt. with 1,4-.alpha.-D-glucan; manuf. of spherical microparticles contg. water-insol., branched polyglucan)
IT 9051-96-1, 1,4-.alpha.-D-Glucan
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mixt. with glycogen; manuf. of spherical microparticles contg. water-insol., branched polyglucan)
IT 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(precipitant; manuf. of spherical microparticles contg. water-insol., branched polyglucan)
IT 67-68-5, DMSO, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(starch solvent; manuf. of spherical microparticles contg. water-insol., branched polyglucan)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; US 3947604 CAPLUS
(2) Anon; DE OS19729273
(3) Anon; DE OS19737481

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L7 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1994:100336 CAPLUS
DN 120:100336
TI Hydrolysis of **insoluble amylose**: adsorption of amylolytic enzymes
AU Shevel'kova, A. N.; Sinitsyn, A. P.
CS M. V. Lomonosov Moscow State Univ., Russia
SO Biokhimiya (Moscow) (1993), 58(10), 1555-61
CODEN: BIOHAO; ISSN: 0320-9725
DT Journal

LA Russian
CC 7-4 (Enzymes)
AB Adsorption of .alpha.- and gluco-amylases on insol. **amylose** followed by insol. substrate hydrolysis has been studied. The relationship between the adsorption-desorption kinetics and the hydrolysis kinetics has been established. The similarity and differences in the behavior of amylolytic and cellulolytic enzymes during the adsorption and hydrolysis of insol. substrates have been found.
ST adsorption **amylose** alpha amylase glucoamylase mechanism
IT Desorption kinetics
(of .alpha.-amylase and glucoamylase, from insol. **amylose**, hydrolysis kinetics in relation to)
IT Adsorption kinetics
(of .alpha.-amylase and glucoamylase, on insol. **amylose**, hydrolysis kinetics in relation to)
IT Adsorption
(of .alpha.-amylase and glucoamylase, on insol. **amylose**, hydrolysis mechanism in relation to)
IT 9000-90-2, .alpha.-Amylase 9032-08-0, Glucoamylase
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, on insol. **amylose**, hydrolysis mechanism in relation to)
IT 9005-82-7, **Amylose**
RL: BIOL (Biological study)
(.alpha.-amylase and glucoamylase adsorption on insol., hydrolysis mechanism in relation to)

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L7 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1994:100259 CAPLUS
DN 120:100259
TI Effect of synergism under combined action of .alpha.- and glucoamylases in soluble and **insoluble amylose**
AU Shevel'kova, A. N.; Sinitsyn, A. P.
CS M. V. Lomonosov Moscow State Univ., Russia
SO Biokhimiya (Moscow) (1993), 58(10), 1548-54
CODEN: BIOHAO; ISSN: 0320-9725
DT Journal
LA Russian
CC 7-3 (Enzymes)
AB The effect of synergism under combined action of .alpha.- and gluco-amylases on sol. and insol. **amylose** has been studied. The influence of such factors as the compn. of the reaction mixt., reaction time, polymn. degree, initial substrate concn. and mechanism of amylase action on the quant. display of the synergism has been demonstrated.
ST glucoamylase alpha amylase **amylose** synergism
IT Saliva
(.alpha.-amylase of human, **amylose** sol. and unsol. forms hydrolysis by glucoamylase and, synergism in)
IT Pancreas, composition
(.alpha.-amylase of, **amylose** sol. and unsol. forms hydrolysis by glucoamylase and, synergism in)
IT 9000-90-2, .alpha.-Amylase
RL: BIOL (Biological study)
(**amylose** sol. and unsol. forms hydrolysis by glucoamylase and, of pancreas and saliva, synergism in)
IT 9032-08-0, Glucoamylase
RL: BIOL (Biological study)
(**amylose** sol. and unsol. forms hydrolysis by pancreatic and salivary .alpha.-amylase and, synergism in)

IT 9005-82-7, **Amylose**
RL: BIOL (Biological study)
(sol. and unsol. forms, hydrolysis of, by pancreatic and salivary .alpha.-amylase and glucoamylase, synergism in)

=> d l7 18 all

L7 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1991:457253 CAPLUS
DN 115:57253
TI Preparation of water-**insoluble** derivatives of hyaluronic acid as surgical aids and drug delivery systems
IN Burns, James W.; Cox, Steven; Walts, Alan E.
PA Genzyme Corp., USA
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K047-26
ICS C08L001-00
NCL 106162000
CC 63-7 (Pharmaceuticals)
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5017229	A	19910521	US 1990-543163	19900625
	WO 9200105	A1	19920109	WO 1991-US4543	19910625
	W: AU, FI, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	AU 9183924	A1	19920123	AU 1991-83924	19910625
	AU 660282	B2	19950622		
	EP 537292	A1	19930421	EP 1991-914691	19910625
	EP 537292	B1	19970409		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 05508161	T2	19931118	JP 1991-514243	19910625
	JP 3399526	B2	20030421		
	AT 151294	E	19970415	AT 1991-914691	19910625
	ES 2100954	T3	19970701	ES 1991-914691	19910625
	US 6174999	B1	20010116	US 1992-833973	19920211
	NO 9204875	A	19921216	NO 1992-4875	19921216
	US 5527893	A	19960618	US 1992-997298	19921223
	US 5760200	A	19980602	US 1995-377949	19950125
	US 6030958	A	20000229	US 1997-914320	19970818
	US 6235726	B1	20010522	US 1999-376266	19990818
	US 2001039336	A1	20011108	US 2001-757202	20010109
PRAI	US 1987-100104	A2	19870918		
	US 1990-543163	A	19900625		
	US 1991-703254	A2	19910520		
	WO 1991-US4543	A	19910625		
	US 1992-833973	A3	19920211		
	US 1994-176334	B1	19940103		
	US 1994-326058	A1	19941019		
	US 1997-914320	A3	19970818		

AB A biocompatible gel is prepd. by reacting hyaluronic acid (I), a polyanionic polysaccharide, and an activating agent under conditions sufficient to form the gel. The polysaccharide is chosen from the group consisting of CM-cellulose, carboxymethyl **amylose**, chondroitin-6-sulfate, dermatan sulfate, heparin and heparin sulfate. The gels prevent adhesions or accretions of body tissues during a post-operation or healing period. The gels may also include a pharmaceutically active substance. Thus, to 100 mL of an aq. soln. (pH

4.7-4.8) contg. I 0.4% and CNM cellulose 0.19% was added 0.67 g of 1-(3-dimethylaminopropyl)-3-ethyl-carbodiimide and the reaction allowed to proceed for 1 h. After removal of the ppt. by dialysis against acidified water for 24 h, the slurry was cast into flat molds and air-dried for 24 h at room temp. The membranes were shown to reduce the incidence of postoperative adhesion formation in exptl. animal models.

ST hyaluronate gel surgical aid; polysaccharide modified hyaluronate tissue adhesive; matrix drug hyaluronate gel

IT Pharmaceutical dosage forms
(matrix for, polysaccharide-modified hyaluronate gels for)

IT Medical goods
(polysaccharide-modified hyaluronate gels for, in prevention of postoperative tissue adhesion)

IT Animal tissue
(postoperative adhesion prevention of, polysaccharide-modified hyaluronate gels for)

IT Polysaccharides, compounds
RL: BIOL (Biological study)
(reaction products, with activated hyaluronates, for surgical aids and drug delivery matrixes)

IT 687-64-9DP, L-Lysine methyl ester, reaction products with hyaluronate and carbodiimides 1892-57-5DP, reaction products with hyaluronate and polysaccharides 2133-40-6DP, L-Proline methyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 2743-40-0DP, L-Leucine ethyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 2748-02-9DP, L-Leucine-tert-butyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 6306-52-1DP, L-Valine methyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 7517-19-3DP, L-Leucine methyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 7524-50-7DP, L-Phenylalanine methyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 9004-32-4DP, Sodium carboxymethyl cellulose, reaction products with hyaluronate and carbodiimides 9004-61-9DP, Hyaluronic acid, reaction products with carbodiimides and polysaccharides 9005-49-6DP, Heparin sulfate, reaction products with hyaluronate and carbodiimides 9067-32-7DP, Sodium hyaluronate, reaction products with carbodiimides and polysaccharides 10466-61-2DP, L-Leucinamide hydrochloride, reaction products with hyaluronate and carbodiimides 12768-31-9DP, Carboxymethyl **amylose**, reaction products with hyaluronate and carbodiimides 18598-74-8DP, L-Isoleucine methyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 22572-40-3DP, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide methiodide, reaction products with hyaluronate and polysaccharides 22888-59-1DP, L-Arginine methyl ester hydrochloride, reaction products with hyaluronate and carbodiimides 22888-60-4DP, L-Histidine methylester hydrochloride, reaction products with hyaluronate and carbodiimides 24967-94-0DP, reaction products with hyaluronate and carbodiimides 25322-46-7DP, reaction products with hyaluronate and carbodiimides
RL: PREP (Preparation)
(prepn. of, as surgical aids and drug delivery matrixes)

=> d 17 19 all

L7 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1991:203434 CAPLUS
DN 114:203434
TI Adhesion of Lactobacillus amylovorus to **insoluble** and derivatized cornstarch granules
AU Imam, Syed H.; Harry-O'Kuru, R. E.
CS Natl. Cent. Agric. Util. Res., U. S. Dep. Agric., Peoria, IL, 61604, USA
SO Applied and Environmental Microbiology (1991), 57(4), 1128-33

CODEN: AEMIDF; ISSN: 0099-2240
DT Journal
LA English
CC 10-6 (Microbial Biochemistry)
AB Approx. 70% of the cells in a suspension of the amylolytic bacterium L. amylovorus bind to cornstarch granules within 30 min at 25.degree.. More than 60% of the bound bacteria were removed by HCHO or glycine at pH 2.0. More than 90% of the bound bacteria were removed by MgCl2 been pretreated with glutaraldehyde, formaldehyde, NaN3, trypsin, or 1% sol. potato starch. Bacterial binding to cornstarch appeared to correlate with both the concn. of cornstarch in the suspension and the **amylose** content in the granules. The ability of L. amylovorus to adhere to cornstarch granules was reduced for granules that had been extd. with HCl-EtOH, HCl-MeOH, HCl-PrOH, or HCl-BuOH. Chem. derivatization of cornstarch resulted in a wide variety of adhesion responses by these bacteria. For example, 2-O-Bu starch (degree of substitution, 0.09) enhanced adhesion, whereas 2 palmitate starches (degree of substitution, 0.48 and 0.09) exhibited reduced adhesion activities. 2-O-(2-Hydroxybutyl) starch and starch-poly(ethylene-co-acrylic acid) ester showed adhesion activities similar to those of the nonderivatized starch controls.
ST Lactobacillus adhesion starch granule
IT Lactobacillus amylovorus
(adhesion of, to corn starch granules)
IT Adhesion
(bio-, of Lactobacillus amylovorus, to corn starch granules)
IT 9005-25-8, Starch, biological studies
RL: BIOL (Biological study)
(corn, adhesion of Lactobacillus amylovorus to)
IT 9005-82-7, **Amylose**
RL: BIOL (Biological study)
(of corn starch granules, adhesion of Lactobacillus amylovorus in relation to)

=> d l7 28 all

L7 ANSWER 28 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1975:412684 CAPLUS
DN 83:12684
TI Lintnerized starches. Chromatographic and enzymic studies of **insoluble** residues from hydrochloric acid hydrolysis of cereal starches, particularly waxy maize [starch]
AU Robin, J. P.; Mercier, C.; Duprat, F.; Charbonniere, R.; Guilbot, A.
CS Massy, Fr.
SO Staerke (1975), 27(2), 36-45
CODEN: STRKA6; ISSN: 0038-9056
DT Journal
LA French
CC 44-5 (Industrial Carbohydrates)
AB Native cereal starches, particularly waxy corn starch, were hydrolyzed at 35.degree. with 2.2N HCl in a heterogeneous phase and the kinetic values showed 2 phases in hydrolysis, a fast hydrolysis of the amorphous fraction and a slower degrdn. of the cryst. starch grain fraction. The hydrolysis rate of acid resistant fractions became slower as the apparent **amylose** ratio increased. Lintnerization decreased the apparent d.p. of the chains of the starch residues and 2 subgroups with apparent d.p. 13 and 25 appeared rapidly. After debranching of solubilized starch residues with pullulanase [9075-68-7] and gel chromatog., a linear chain subgroup of d.p. 15-20 appeared. A parallelism between cryst. patterns of native starches and the amylopectin structure, particularly its branching degree, was obsd.

ST lintnerization starch; hydrolysis cereal starch
IT Chains, chemical
(branching of, of amylopectin)
IT Crystal structure
(of starch, hydrolysis effect on)
IT Kinetics of hydrolysis
(of starch, with hydrochloric acid, lintnerization in relation to)
IT 9005-25-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, with hydrochloric acid, kinetics of)
IT 7647-01-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis with, of starch, kinetics of)
IT 9000-91-3 9075-68-7
RL: USES (Uses)
(lintnerized starches treated with, debranching in relation to)
IT 9037-22-3
RL: PRP (Properties)
(structure of, cryst. patterns of native starches in relation to)

=> d l7 29 all

L7 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1974:436632 CAPLUS
DN 81:36632
TI Nature of **insoluble** starch particles in liquefied corn starch hydrolyzates
AU Hebeda, R. E.; Leach, H. W.
CS Biochem. Res. Dep., CPC Int., Argo, IL, USA
SO Cereal Chemistry (1974), 51(2), 272-81
CODEN: CECHAF; ISSN: 0009-0352
DT Journal
LA English
CC 17-4 (Foods)
AB Examn. of acid-thinned corn starch hydrolyzates by microscopy, lipid and starch detns., X-ray diffraction, soly., and I absorbancy showed that the insol. starch particles occurring in the hydrolyzates were primarily **amylose** in a degraded and assocd. form, whereas insol. particles in enzyme-thinned hydrolyzates were complexes of degraded **amylose** and free fatty acids. A 2nd crop of insol. starch particles, forming in both types of hydrolyzates after clarification and refrigeration, were different from each other and from the corresponding initial crops.
ST starch hydrolyzate insol particle; **amylose** particle starch hydrolyzate
IT Fatty acids, uses and miscellaneous
RL: USES (Uses)
(of starch hydrolyzates, insol. particles in relation to)
IT 9005-82-7
RL: BIOL (Biological study)
(of starch hydrolyzate, particles of)
IT 9004-53-9
RL: BIOL (Biological study)
(particles of, compn. of)

=> d l7 31 all

L7 ANSWER 31 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1970:128567 CAPLUS
DN 72:128567
TI Occurrence of **insoluble** starch particles in enzymically

saccharified starch solution
AU Komaki, Toshiaki
CS Nagase, and Co., Amagasaki, Japan
SO Denpun Kogyo Gakkaishi (1969), 17(1), 131-8
CODEN: DKOGAN; ISSN: 0416-9662
DT Journal; General Review
LA English
CC 2 (General Biochemistry)
AB A review. In enzymically liquefied and subsequently saccharified starch soln., some small particles often remain insol. A part of them is formed during the liquefaction. The other part comes from the raw material, of which potato starch produce s the least and corn starch the most. These insol. starch particles are presumably composed of **amylose**. 15 refs.
ST insol starch particles review; review insol starch particles; starch insol particles review; corn starch insol particles; potato starch insol particles
IT 9005-25-8, biological studies
RL: BIOL (Biological study)
(hydrolyzate, **insoluble** particles in enzymically saccharified)

=> d l7 27 all

L7 ANSWER 27 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1978:545279 CAPLUS
DN 89:145279
TI Importance of **insoluble amylose** as a determinant of rice quality
AU Bhattacharya, Kshirod R.; Sowbhagya, Chakrabhavi M.; Indudhara Swamy, Yelandur M.
CS Cent. Food Technol. Res. Inst., Mysore, India
SO Journal of the Science of Food and Agriculture (1978), 29(4), 359-64
CODEN: JSFAAE; ISSN: 0022-5142
DT Journal
LA English
CC 17-4 (Foods)
AB Thirty-two varieties of rice were divided into 5 groups depending on their total and hot water-insol. **amylose** (I) [9005-82-7] contents; the textural properties of the samples correlated well with the insol. I content. As the insol. I increased, the consistency and setback of rice increased and the stickiness and breakdown decreased. The alkali degrdn. type of rice and the equil. moisture content attained by the rice after soaking in water also seemed to be related to its quality.
ST rice quality **amylose**
IT Rice
(**amylose** of, quality in relation to)
IT 9005-82-7
RL: BIOL (Biological study)
(of rice, quality in relation to)

=> d l7 26 all

L7 ANSWER 26 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1979:486557 CAPLUS
DN 91:86557
TI Gamma irradiation of high **amylose** corn starch. V. The properties of **insoluble** residues from irradiated amylomaize starch
AU Watanabe, Yukio; Ayano, Yuko; Obara, Tetsujiro

CS Fac. Hortic., Chiba Univ., Matsudo, Japan
SO Denpun Kagaku (1977), 24(3), 59-66
CODEN: DPNKAV; ISSN: 0366-9580
DT Journal
LA Japanese
CC 8-13 (Radiation Biochemistry)
Section cross-reference(s): 17
AB Amylomaize (corn starch of high **amylose** content) and normal corn starch were .gamma.-irradiated up to 60 Mrads. Both starches became sol. in cold water by .gamma.-irradn. Amylomaize starches of 3 and 12% moisture contents were solubilized 62 and 56%, resp. Normal corn starch was more sensitive to .gamma.-irradn. than amylomaize, and was solubilized up to .apprx.90%. Both irradiated starches showed little change in x-ray diffractograms. Insol. residues from the irradiated starches had 30-40 glucose residues on the av., indicating a redn. of the chain length, although those residues contained a considerable amt. of high-mol.-wt. fractions. X-ray diffractograms of the insol. fractions showed no change as compared with those of the original starches.
ST gamma ray corn starch
IT Gamma ray, biological effects
(on starch, of high **amylose** content)
IT 9005-82-7
RL: BIOL (Biological study)
(.gamma.-ray effect on starch with high content of)
IT 9005-25-8, biological studies
RL: BIOL (Biological study)
(.gamma.-ray effect on, of high **amylose** content)

=>

=>

=> d l7 20 all

L7 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1991:79355 CAPLUS
DN 114:79355
TI Chemoreception for an **insoluble** nonvolatile substance: starch taste?
AU Ramirez, Israel
CS Monell Chem. Senses Cent., Philadelphia, PA, 19104-3308, USA
SO American Journal of Physiology (1991), 260(1, Pt. 2), R192-R199
CODEN: AJPHAP; ISSN: 0002-9513
DT Journal
LA English
CC 13-6 (Mammalian Biochemistry)
AB Substances that are insol. in both water and lipids, such as starch, are commonly assumed to be tasteless. Starch was suspended in water with a viscous gum. Rats given a choice of fluid contg. starch and the same fluid without starch consistently preferred fluids contg. starch. Rats were able to detect as little as 0.5% starch from several species of plants (corn, rice, wheat, and potato). In contrast, rats ignored comparable concns. of cellulose suspended in water. Rats were also capable of choosing the fluid contg. higher levels of starch when given a choice of 1 vs. 2% starch or 0.5 vs. 1% starch. This ability to detect starch did not appear to be mediated by salivary .alpha.-amylase because (1) raw starch is highly resistant to hydrolysis by salivary amylase, (2) starch preference was not correlated with the susceptibility of the starch to hydrolysis by salivary amylase, and (3) starch preference was not blocked by partial or extensive desalivation. Attempts to ext. impurities with either org. solvents or water did not provide any evidence that such

impurities contribute to starch preference. These expts. point to a seemingly novel form of chemoreception that could be useful to animals that need to identify starch-rich foods.

ST starch taste perception

IT Saliva
(amylase of, starch taste perception in relation to)

IT Taste
(of starch, perception of)

IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(taste perception of)

IT Potato
Rice
Wheat
(taste perception of, starch in relation to)

IT 9000-90-2, .alpha.-Amylase
RL: BIOL (Biological study)
(of saliva, starch taste perception in relation to)

IT 9005-25-8, Starch, biological studies
RL: BIOL (Biological study)
(taste perception of)

IT 57-50-1, Sucrose, biological studies 9004-34-6, Cellulose, biological studies 9005-82-7, **Amylose** 9037-22-3, Amylopectin 9050-36-6, Polycose 51395-74-5, Alphacel
RL: BIOL (Biological study)
(taste perception of, starch in relation to)

=> d l7 14 all

L7 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2003 ACS
AN 1995:952058 CAPLUS
DN 124:56471
TI Enzymic Modification of **Insoluble Amylose** in Organic Solvents
AU Bruno, Ferdinando F.; Akkara, Joseph A.; Ayyagari, Madhu; Kaplan, David L.; Gross, Richard; Swift, Graham; Dordick, Jonathan S.
CS Department of Chemical and Biochemical Engineering, University of Iowa, Iowa City, IA, 52242, USA
SO Macromolecules (1995), 28(26), 8881-3
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 33-5 (Carbohydrates)
AB **Amylose** was acylated by solubilized subtilisin Carlsberg in isooctane soln. contg. vinyl caprate as acyl donor. The reaction occurs only when the enzyme is solubilized via ion-pairing with the anionic surfactant Aerosol OT. The **amylose** is reactive either as a cryogenically milled powder suspended in the org. solvent or as a thin film deposited onto ZnSe slides. ESCA anal. of the first 100 .ANG. of the thin film indicates that the acylated surface had a degree of substitution of 0.9 acyl per chains per glucose moiety and this corresponded well to the expected regioselectivity of subtilisin catalysis on glucose-contg. compds. 1H-NMR confirmed that only the C-6 hydroxyl groups were acylated in the **amylose** mol. This approach represents the first attempt at using enzymes to modify org. solvent-insol. polymers in nonaq. media.

ST **amylose** acylation subtilisin org solvent

IT Polysaccharides, preparation
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(acylated derivs.; acylation of insol. **amylose** in org.

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        solvents by subtilisin Carlsberg)
IT   Acylation
     Regiochemistry
        (acylation of insol. amylose in org. solvents by subtilisin
        Carlsberg)
IT   9014-01-1, Subtilisin
     RL: CAT (Catalyst use); USES (Uses)
        (Carlsberg; acylation of insol. amylose in org. solvents by
        subtilisin Carlsberg)
IT   9005-82-7DP, Amylose, C-6 acylated derivs.
     RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP
     (Preparation)
        (acylation of insol. amylose in org. solvents by subtilisin
        Carlsberg)
IT   540-84-1, Isooctane   577-11-7, Aerosol OT
     RL: CAT (Catalyst use); USES (Uses)
        (acylation of insol. amylose in org. solvents by subtilisin
        Carlsberg)
IT   4704-31-8, Vinyl caprate   9005-82-7, Amylose
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (acylation of insol. amylose in org. solvents by subtilisin
        Carlsberg)


=> s 1 4 glucans
       7566218 1
       4706453 4
          3536 GLUCANS
L8         110 1 4 GLUCANS
               (1(W)4(W)GLUCANS)

=> d his

     (FILE 'HOME' ENTERED AT 15:09:17 ON 09 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 15:09:27 ON 09 JUN 2003
L1           517 S AMYLOSE
L2             0 S POLY ALPHA GLUCAN
L3             0 S POLYLUCAN
L4             2 S POLY GLUCAN

     FILE 'CAPLUS' ENTERED AT 15:11:04 ON 09 JUN 2003
L5          9799 S AMYLOSE
                 E AMYLOSE
                 E INSOLUBLE
L6         13180 S E3
L7            35 S L5 AND L6
L8           110 S 1 4 GLUCANS

=> s l8 and l4
          2370 L4
L9           7 L8 AND L4

=> d l9 not l7
L7 IS NOT VALID HERE
For an explanation, enter "HELP DISPLAY".

=> s l9 not l7
L10          7 L9 NOT L7

=> d l10 1-7
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L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2001:374239 CAPLUS
DN 135:89040
TI Chain-length specificities of maize starch synthase I enzyme: Studies of glucan affinity and catalytic properties
AU Commuri, Padmavathi D.; Keeling, Peter L.
CS ExSeed Genetics LLC, Ames, IA, 50010, USA
SO Plant Journal (2001), 25(5), 475-486
CODEN: PLJUED; ISSN: 0960-7412
PB Blackwell Science Ltd.
DT Journal
LA English
RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2000:8936 CAPLUS
DN 132:51374
TI Influence of the glycosidic linkage on the solution conformation of glucans
AU Kath, Franziskus; Lange, Silke; Kulicke, Werner-Michael
CS Institut Technische Makromolekulare Chemie, Univ. Hamburg, Hamburg, D-20146, Germany
SO Angewandte Makromolekulare Chemie (1999), 271, 28-36
CODEN: ANMCBO; ISSN: 0003-3146
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1999:141949 CAPLUS
DN 130:236557
TI Manufacture of .alpha.-1,3-**1,4-glucans** with Aureobasidium and trisaccharide therefrom
IN Watanabe, Kimiko; Sakayanagi, Sadao; Mizutata, Yoshinori; Yagishita, Kazuhiro
PA Nippon Oil Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11056385	A2	19990302	JP 1997-230690	19970827
PRAI	JP 1997-230690		19970827		

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1997:568887 CAPLUS
DN 127:261734
TI Starch biosynthesis and modification of starch structure in transgenic plants
AU Kossmann, J.; Buttcher, V.; Abel, G. J. W.; Duwenig, E.; Emmermann, M.; Frohberg, C.; Lloyd, J. R.; Lorberth, R.; Springer, F.; Welsh, T.; Willmitzer, L.
CS Max-Planck-Institut Molekulare Pflanzenphysiologie, Golm, D-14476, Germany
SO Macromolecular Symposia (1997), 120(Functional Polysaccharides II), 29-38
CODEN: MSYMEC; ISSN: 1022-1360
PB Huethig & Wepf
DT Journal

LA English

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1996:621402 CAPLUS
DN 125:241706
TI Interaction of Polysaccharides with the N-Terminal Cellulose-Binding Domain of Cellulomonas fimi CenC. 1. Binding Specificity and Calorimetric Analysis
AU Tomme, Peter; Creagh, A. Louise; Kilburn, Douglas G.; Haynes, Charles A.
CS Protein Engineering Network of Centres of Excellence, University of British Columbia, Vancouver, BC, V6T 1Z3, Can.
SO Biochemistry (1996), 35(44), 13885-13894
CODEN: BICHAW; ISSN: 0006-2960
PB American Chemical Society
DT Journal
LA English

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1986:508037 CAPLUS
DN 105:108037
TI Effect of glucans on the antitumor activity of grifolan
AU Ohno, Naohito; Hayashi, Mami; Iino, Kazuyoshi; Suzuki, Iwao; Oikawa, Shozo; Sato, Kichiro; Suzuki, Yoshiyuki; Yadomae, Toshiro
CS Tokyo Coll. Pharm., Tokyo, 192-03, Japan
SO Chemical & Pharmaceutical Bulletin (1986), 34(5), 2149-54
CODEN: CPBTAL; ISSN: 0009-2363
DT Journal
LA English

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1974:566341 CAPLUS
DN 81:166341
TI Structure of plant cell walls. VI. Survey of the walls of suspension-cultured monocots
AU Burke, David; Kaufman, Peter; McNeil, Michael; Albersheim, Peter
CS Dep. Chem., Univ. Colorado, Boulder, CO, USA
SO Plant Physiology (1974), 54(1), 109-15
CODEN: PLPHAY; ISSN: 0032-0889
DT Journal
LA English

=> d l10 7 all

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1974:566341 CAPLUS
DN 81:166341
TI Structure of plant cell walls. VI. Survey of the walls of suspension-cultured monocots
AU Burke, David; Kaufman, Peter; McNeil, Michael; Albersheim, Peter
CS Dep. Chem., Univ. Colorado, Boulder, CO, USA
SO Plant Physiology (1974), 54(1), 109-15
CODEN: PLPHAY; ISSN: 0032-0889
DT Journal
LA English
CC 11-1 (Plant Biochemistry)
AB The primary cell walls of 6 suspension-cultured monocots and of a single suspension-cultured gymnosperm were investigated with were investigated with the following results: (a) the compn. of all 6 monocot cell walls were remarkably similar, despite the fact that the cell cultures were derived from diverse tissues; (b)the cell walls of suspension-cultured monocots differ substantially from those of suspension-cultured dicots and

from the suspension-cultured gymnosperm; (c) an arabinoxylan is a major component (.gtoreq.40% by wt.) of monocot primary cell .beta.-1,3.gtoreq..beta. (d) mixed .beta.-1,3.gtoreq..beta. and **1,4-glucans** were found only in the cell wall prepns. of rye grass endosperm cells, and not in the cell walls of any of the other 5 monocot cell cultures, nor in the walls of suspension-cultured Douglas fir cells; (e) the monocot primary cell walls studied contained 9-14% cellulose, 7-18% uronic acids, and 7-17% protein; (f)hydroxyproline accounts for <0.2% of the cell walls of monocots. Similar data on the sol. extracellular polysaccharides secreted by these cells are included.

ST monocot primary cell wall compn; gymnosperm primary cell wall compn; cellulose cell wall monocot; uronate cell wall monocot; protein cell wall monocot; sugar cell wall monocot

IT Bromus
Douglas fir
English ryegrass
Oat
Rice
Sugarcane
Wheat
(cell walls of, compn. of)

IT Cell wall
(compn. of, of suspension-cultured monocots)

IT Proteins
Uronic acids
RL: BIOL (Biological study)
(of cell walls, of monocots)

IT Polysaccharides, biological studies
RL: BIOL (Biological study)
(of plant cell walls, of monocots)

IT 9004-34-6, biological studies
RL: BIOL (Biological study)
(of cell walls, of monocots)

IT **9012-72-0** 9040-27-1
RL: BIOL (Biological study)
(of plant cell walls, of monocots)

=> d l10 6 all

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1986:508037 CAPLUS
DN 105:108037
TI Effect of glucans on the antitumor activity of grifolan
AU Ohno, Naohito; Hayashi, Mami; Iino, Kazuyoshi; Suzuki, Iwao; Oikawa, Shozo; Sato, Kichiro; Suzuki, Yoshiyuki; Yadomae, Toshiro
CS Tokyo Coll. Pharm., Tokyo, 192-03, Japan
SO Chemical & Pharmaceutical Bulletin (1986), 34(5), 2149-54
CODEN: CPBTAL; ISSN: 0009-2363
DT Journal
LA English
CC 1-6 (Pharmacology)
AB The antitumor effects of grifolan (.beta.-1,3-glucan) [104074-36-4] were compared with those of the inactive .beta.-1,6-glucan islandican [100358-90-5] and .beta.-1,4-glucan starch [9005-25-8] in mice. .beta.-1,6-Glucan [37361-00-5] enhanced the antitumor activity of grifolan, whereas .alpha.-1,4-glucan [9051-96-1] showed a suppressive effect on the antitumor activity of grifolan. When these glucans were injected i.p. into normal mice, the glucans disappeared gradually. The rate of disappearance was in the order .alpha.-1,4>.beta.-1,6>.beta.-1,3. Grifolan induced peritoneal exudate cells, but .beta.-1,6 and .alpha.-**1,4-glucans** did not. Only .alpha.-1,4-glucan

was degraded by the lysate of the peritoneal exudate cells. These results indicate that the antitumor activity of .beta.-1,3-glucan can be pos. or neg. modulated by other glucans, and that glucans showing different antitumor effects have a variety of actions and fates in mice.

ST antitumor grifolan glucan

IT Neoplasm inhibitors
(grifolan as, other glucans effect on)

IT 9005-25-8, biological studies **9012-72-0** 9051-96-1 37361-00-5 100358-90-5
RL: BIOL (Biological study)
(neoplasm inhibition by grifolan response to)

IT 104074-36-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neoplasm inhibition by, other glucans effect on)

=> d l10 5 all

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS

AN 1996:621402 CAPLUS

DN 125:241706

TI Interaction of Polysaccharides with the N-Terminal Cellulose-Binding Domain of Cellulomonas fimi CenC. 1. Binding Specificity and Calorimetric Analysis

AU Tomme, Peter; Creagh, A. Louise; Kilburn, Douglas G.; Haynes, Charles A.

CS Protein Engineering Network of Centres of Excellence, University of British Columbia, Vancouver, BC, V6T 1Z3, Can.

SO Biochemistry (1996), 35(44), 13885-13894
CODEN: BICHAW; ISSN: 0006-2960

PB American Chemical Society

DT Journal

LA English

CC 7-5 (Enzymes)
Section cross-reference(s): 6

AB The carbohydrate-binding specificity of the N-terminal cellulose-binding domain (CBDN1) from Cellulomonas fimi .beta.-1,4-glucanase C (CenC) was investigated using affinity electrophoresis, binding assays and microcalorimetry in parallel with NMR and difference UV absorbance spectroscopy [Johnson, P. E., Tomme, P., Joshi, M. D., & McIntosh, L. P. (1996) Biochem. 35 (in press)]. Binding of CBDN1 on insol. cellulose is distinctly different from other cellulose-binding domains. CBDN1 binds amorphous cellulose (phosphoric acid-swollen) with high affinity (Kr = 5.1 L g-1), binds Avicel weakly and does not bind highly cryst. bacterial or tunicin cellulose. Moreover, CBDN1 binds sol. cellooligosaccharides and .beta.-1,4-linked oligomers of glucose such as hydroxyethylcellulose, sol. .beta.-1,3-**1,4-glucans** from barley, oat, but has no affinity for .alpha.-1,4-, .beta.-1,3-, or .beta.-1,6-polymers of glucose. This is the first report of a cellulose-binding domain with strong and specific affinity for sol. glycans. The thermodn. for binding of CBDN1 to oligosaccharides, sol. glycans, and phosphoric acid-swollen cellulose was investigated by titrn. microcalorimetry. At least four .beta.-1,4-linked glucopyranosides are required to detect binding. For larger glucans, with five or more glucopyranoside units, the binding consts. and std. free energy changes are virtually independent of the glucan chain length, indicating that cellopentaose completely fills the binding site. Binding is moderately strong with binding consts. ranging from 3 200.+-.500 M-1 for cellotetraose, to 25 000.+-.3 000 M-1 for the larger sugars. The reactions are controlled by favorable std. free enthalpy changes which are compensated in a linear fashion by a significant decrease in entropy. A predominance of polar interactions

such as hydrogen bonding together with van der Waals interactions provide the major driving forces for the binding event.

ST polysaccharide cellulose binding domain Cellulomonas cellulase

IT Polysaccharides, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(binding of; interaction of polysaccharides with the N-terminal cellulose-binding domain of cellulomonas fimi CenC. 1. binding specificity and calorimetric anal.)

IT Cellulomonas fimi
Molecular association
(interaction of polysaccharides with the N-terminal cellulose-binding domain of cellulomonas fimi CenC. 1. binding specificity and calorimetric anal.)

IT Oligosaccharides
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(cello-, binding of; interaction of polysaccharides with the N-terminal cellulose-binding domain of cellulomonas fimi CenC. 1. binding specificity and calorimetric anal.)

IT 9004-34-6, Cellulose, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(-binding domain; interaction of polysaccharides with the N-terminal cellulose-binding domain of cellulomonas fimi CenC. 1. binding specificity and calorimetric anal.)

IT 9012-54-8, Cellulase
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(N-terminal cellulose binding domain; interaction of polysaccharides with the N-terminal cellulose-binding domain of cellulomonas fimi CenC. 1. binding specificity and calorimetric anal.)

IT 9004-62-0, Hydroxyethylcellulose **9012-72-0**, Glucan
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(binding of; interaction of polysaccharides with the N-terminal cellulose-binding domain of cellulomonas fimi CenC. 1. binding specificity and calorimetric anal.)

=> d l10 4 all

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1997:568887 CAPLUS
DN 127:261734
TI Starch biosynthesis and modification of starch structure in transgenic plants
AU Kossmann, J.; Buttcher, V.; Abel, G. J. W.; Duwenig, E.; Emmermann, M.; Frohberg, C.; Lloyd, J. R.; Lorberth, R.; Springer, F.; Welsh, T.; Willmitzer, L.
CS Max-Planck-Institut Molekulare Pflanzenphysiologie, Golm, D-14476, Germany
SO Macromolecular Symposia (1997), 120(Functional Polysaccharides II), 29-38
CODEN: MSYMEC; ISSN: 1022-1360
PB Huethig & Wepf
DT Journal
LA English
CC 16-3 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 11, 44
AB Starch is synthesized through the ADP-glucose pathway, involving the 3 enzymes ADP-glucose pyrophosphorylase, starch synthase, and starch-branching enzyme. ADP-glucose pyrophosphorylase is the key enzyme of the pathway, detg. the flux of C into starch. It generates

ADP-glucose, which is the substrate for the starch synthases, from glucose-1-phosphate and ATP releasing pyrophosphate. The enzyme is stimulated by 3-phosphoglycerate and inhibited through inorg. phosphate. The starch synthases, which catalyze the transfer of glucose from ADP-glucose to the nonreducing end of a growing .alpha.-1,4-glucan, are divided into 2 classes, the granule-bound starch synthases (GBSS) and the sol. starch synthases (SS). In both classes several isoforms were described from many different plant species. The branching enzyme, which introduces branch points into the amylopectin, can also occur in different isoforms. Other enzymes present in plants, which also act on .alpha.-**1,4-glucans**, such as the starch phosphorylases, disproportionating enzyme and different starch hydrolases, might also be important for detg. the starch structure and, therefore, its processibility. Many aspects of starch synthesis are not fully understood to date. Starch metab. can be manipulated through genetic engineering, either by the ectopic expression of different heterologous genes, or through the repression of the expression of endogenous genes using antisense RNA technol. This not only allows the functional anal. of starch biosynthetic proteins, but also the manipulation of starch structure in order to widen its industrial applications. In this way many different potato lines were generated, contg. either different amts. of starch, or which synthesize a structurally modified starch. These structural changes relate to the amylose content, the phosphate content, or the gelatinization and gelation characteristics of the starch.

ST potato transgene starch synthase DNA amylose

IT Enzymes, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(branching; starch biosynthesis and modification of starch structure in transgenic plants)

IT Food gelling
(starch biosynthesis and modification of starch structure in transgenic plants)

IT Potato (Solanum tuberosum)
(transgenic; starch biosynthesis and modification of starch structure in transgenic plants)

IT 9005-25-8P, Starch, biological studies 9030-10-8P, Starch synthase
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(starch biosynthesis and modification of starch structure in transgenic plants)

IT 9005-82-7, Amylose **9012-72-0**, Glucan 14265-44-2, Phosphate, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(starch biosynthesis and modification of starch structure in transgenic plants)

=> d l10 3 all

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1999:141949 CAPLUS
DN 130:236557
TI Manufacture of .alpha.-1,3-**1,4-glucans** with Aureobasidium and trisaccharide therefrom
IN Watanabe, Kimiko; Sakayanagi, Sadao; Mizutata, Yoshinori; Yagishita, Kazuhiro
PA Nippon Oil Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM C12P019-04
ICS C12P019-04; C12R001-01
CC 16-4 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 17
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11056385	A2	19990302	JP 1997-230690	19970827
PRAI	JP 1997-230690		19970827		

AB The glucans having m/n = 2.4-2.9 and having mol. wt. .ltoreq.10,000,000, useful as materials for water-sol. film with low O permeability for enteric coating, capsules, food, cosmetics, agriculture, etc., are manufd. by culturing Aureobasidium. O-.alpha.-D-glucopyranosyl-(1.fwdarw.3)-O-.alpha.-D-glucopyranosyl-(1.fwdarw.4)-D-glucose (I), useful as a sweetener, etc., is manufd. by decompg. the glucan with .alpha.-amylase. A. pullulans was mutated with N-methyl-N'-nitro-N-nitrosoguanidine and a mutant forming colorless or less-colored colony named APW-1 (FERM P-15096) was batch-cultured in a medium contg. glucose and salts at 28.degree. for 4 days to give the glucan (m/n = 2.75:1). The glucan was treated with porcine liver .alpha.-amylase in an acetate buffer at 25.degree. for 30 h to give I.

ST glucan manuf Aureobasidium water sol film; fermn glucan Aureobasidium; glucose trisaccharide manuf decompn glucan amylase

IT Films
(edible; manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT Aureobasidium
Aureobasidium pullulans
Fermentation
(manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT 9000-90-2, .alpha.-Amylase
RL: CAT (Catalyst use); USES (Uses)
(glucan decompn. with; manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT 69924-34-1P
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

IT **9012-72-0P**, Glucan
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(.alpha.-1,3-1,4-; manuf. of .alpha.-1,3-**1,4-glucans** as materials for water-sol. films with Aureobasidium and glucose trisaccharide therefrom)

=> d his

(FILE 'HOME' ENTERED AT 15:09:17 ON 09 JUN 2003)

FILE 'REGISTRY' ENTERED AT 15:09:27 ON 09 JUN 2003
L1 517 S AMYLOSE
L2 0 S POLY ALPHA GLUCAN

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L3             0 S POLYLUCAN
L4             2 S POLY GLUCAN

     FILE 'CAPLUS' ENTERED AT 15:11:04 ON 09 JUN 2003
L5          9799 S AMYLOSE
                 E AMYLOSE
                 E INSOLUBLE
L6         13180 S E3
L7            35 S L5 AND L6
L8           110 S 1 4 GLUCANS
L9             7 S L8 AND L4
L10            7 S L9 NOT L7

=> e enzyme
E1             1     ENZYMDE/BI
E2             4     ENZYMDIAGNOSTIK/BI
E3        675695 --> ENZYME/BI
E4             1     ENZYME0LINKED/BI
E5             4     ENZYME1/BI
E6             3     ENZYME2/BI
E7             1     ENZYME3/BI
E8             1     ENZYME4/BI
E9             1     ENZYMEACTIVATED/BI
E10            1     ENZYMEACTIVITIES/BI
E11            2     ENZYMEACTIVITY/BI
E12            1     ENZYMEALLERGOSORBENT/BI

=> s e3
L11      675695 ENZYME/BI

=> d his

     (FILE 'HOME' ENTERED AT 15:09:17 ON 09 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 15:09:27 ON 09 JUN 2003
L1           517 S AMYLOSE
L2             0 S POLY ALPHA GLUCAN
L3             0 S POLYLUCAN
L4             2 S POLY GLUCAN

     FILE 'CAPLUS' ENTERED AT 15:11:04 ON 09 JUN 2003
L5          9799 S AMYLOSE
                 E AMYLOSE
                 E INSOLUBLE
L6         13180 S E3
L7            35 S L5 AND L6
L8           110 S 1 4 GLUCANS
L9             7 S L8 AND L4
L10            7 S L9 NOT L7
                 E ENZYME
L11       675695 S E3

=> s l8 and l11
L12           50 L8 AND L11

=> d l12 30-50

L12  ANSWER 30 OF 50  CAPLUS  COPYRIGHT 2003 ACS
AN   1994:503075  CAPLUS
DN   121:103075
TI   A new glucan lyase producing 1,5-anhydrofructose
IN   Kenne, Lennart; Pedersen, Marianne; Yu, Shukun
```

PA Algatech AB, Swed.
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9409122	A1	19940428	WO 1993-SE854	19931019
	W: AU, BB, BG, BR, BY, CA, CZ, FI, HU, JP, KP, KR, KZ, LK, LV, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	SE 9203084	A	19940422	SE 1992-3084	19921021
	SE 507207	C2	19980420		
	AU 9453470	A1	19940509	AU 1994-53470	19931019
	EP 665881	A1	19950809	EP 1993-923707	19931019
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	US 5695970	A	19971209	US 1995-416709	19950418
PRAI	SE 1992-3084		19921021		
	WO 1993-SE854		19931019		

L12 ANSWER 31 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1994:316883 CAPLUS
DN 120:316883
TI Molecular cloning of thermostable .beta.-glucosidase gene from a thermophilic anaerobe NA10 and its high expression in Escherichia coli
AU Sota, Hiroyuki; Arunwanich, Patthra; Kurita, Osamu; Uozumi, Nobuyuki; Honda, Hiroyuki; Iijima, Shinji; Kobayashi, Takeshi
CS Fac. Eng., Nagoya Univ., Nagoya, 464-01, Japan
SO Journal of Fermentation and Bioengineering (1994), 77(2), 199-201
CODEN: JFBIEX; ISSN: 0922-338X
DT Journal
LA English

L12 ANSWER 32 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1993:491354 CAPLUS
DN 119:91354
TI Glucomannan synthesis in pea epicotyls: The mannose and glucose transferases
AU Piro, G.; Zuppa, A.; Dalessandro, G.; Northcote, D. H.
CS Dip. Biol., Univ. Lecce, Lecce, I-73100, Italy
SO Planta (1993), 190(2), 206-20
CODEN: PLANAB; ISSN: 0032-0935
DT Journal
LA English

L12 ANSWER 33 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1993:211400 CAPLUS
DN 118:211400
TI **Enzyme** formation by a yeast cell wall lytic Arthrobacter species: formation of amylase
AU John, E.; Hampel, W. A.
CS Inst. Biochem. Technol. MIcrobiol., Tech. Univ. Vienna, Vienna, A-1060, Austria
SO Applied Microbiology and Biotechnology (1992), 38(2), 214-19
CODEN: AMBIDG; ISSN: 0175-7598
DT Journal
LA English

L12 ANSWER 34 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1993:209138 CAPLUS

DN 118:209138
TI Occurrence of cellulose and chitin in the hyphal walls of Pythium ultimum: A comparative study with other plant pathogenic fungi
AU Cherif, Mohamed; Benhamou, Nicole; Belanger, Richard R.
CS Fac. Sci. Agric. Aliment., Univ. Laval, Quebec, QC, G1K 7P4, Can.
SO Canadian Journal of Microbiology (1993), 39(2), 213-22
CODEN: CJMIAZ; ISSN: 0008-4166
DT Journal
LA English

L12 ANSWER 35 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1992:608629 CAPLUS
DN 117:208629
TI Cytochemical localization of some polysaccharidic components in the cell walls of Chalara elegans during its life cycle
AU Dumas-Gaudot, Eliane; Tahiri-Alaoui, Abdessamad; Benhamou, Nicole
CS Lab. Phytoparasitol., INRA, Dijon, 21034, Fr.
SO Canadian Journal of Microbiology (1992), 38(8), 828-37
CODEN: CJMIAZ; ISSN: 0008-4166
DT Journal
LA English

L12 ANSWER 36 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1990:155329 CAPLUS
DN 112:155329
TI Fungal bioconversions yielding unusual antibiotic pyrones from sugars. XV. Biogenesis of 1,5-D-anhydrofructose, the precursor of microthecin in morels: a novel degradation of .alpha.-D-**1,4-glucans** such as glycogen or starch
AU Baute, M. A.; Baute, M. R.; Deffieux, M. G.
CS Fac. Sci. Pharm., Univ. Bordeaux II, Bordeaux, 33076, Fr.
SO Bulletin de la Societe de Pharmacie de Bordeaux (1989), 128(1-2-3-4), 9-18
CODEN: BSPBAD; ISSN: 0037-9093
DT Journal
LA French

L12 ANSWER 37 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1989:53516 CAPLUS
DN 110:53516
TI Purification and properties of chitosanase from Bacillus circulans MH-K1
AU Yabuki, Minoru; Uchiyama, Akira; Suzuki, Kuniko; Ando, Akikazu; Fujii, Takaaki
CS Fac. Hortic., Chiba Univ., Matsudo, 271, Japan
SO Journal of General and Applied Microbiology (1988), 34(3), 255-70
CODEN: JGAMA9; ISSN: 0022-1260
DT Journal
LA English

L12 ANSWER 38 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1989:36056 CAPLUS
DN 110:36056
TI Inspection of human salivary .alpha.-amylase action by its transglycosylation action
AU Omichi, Kaoru; Ikenaka, Tokuji
CS Coll. Sci., Osaka Univ., Toyonaka, 560, Japan
SO Journal of Biochemistry (Tokyo, Japan) (1988), 104(6), 881-3
CODEN: JOBIAO; ISSN: 0021-924X
DT Journal
LA English

L12 ANSWER 39 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1986:221237 CAPLUS

DN 104:221237
TI The initiation of glycogen biosynthesis in rat heart .alpha.-**1,4 glucans** tightly associated with glycogen synthase
AU Blumenfeld, Marta L.; Krisman, Clara R.
CS Inst. Invest. Bioquim. 'Fund. Campomar', Fac. Cienc. Exactas Nat., Buenos Aires, RA-1405, Argent.
SO European Journal of Biochemistry (1986), 156(1), 163-9
CODEN: EJBCAI; ISSN: 0014-2956
DT Journal
LA English

L12 ANSWER 40 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1984:117964 CAPLUS
DN 100:117964
TI A debranching **enzyme** deficiency in endosperms of the sugary-1 mutants of maize
AU Pan, David; Nelson, Oliver E.
CS Dep. Genet., Univ. Wisconsin, Madison, WI, 53706, USA
SO Plant Physiology (1984), 74(2), 324-8
CODEN: PLPHAY; ISSN: 0032-0889
DT Journal
LA English

L12 ANSWER 41 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1983:449495 CAPLUS
DN 99:49495
TI Effect of surfactants on cyclization of Bacillus macerans cyclodextrin glucanotransferase
AU Kobayashi, Shoichi; Kainuma, Keiji; French, Dexter
CS Natl. Food Res. Inst., Minist. Agric. For. Fish., Tsukuba, 305, Japan
SO Denpun Kagaku (1983), 30(1), 62-8
CODEN: DPNKAV; ISSN: 0366-9580
DT Journal
LA English

L12 ANSWER 42 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1982:540719 CAPLUS
DN 97:140719
TI Solubilization of .beta.-glucan synthases from the membranes of cultured ryegrass endosperm cells
AU Henry, Robert J.; Stone, Bruce A.
CS Dep. Biochem., La Trobe Univ., Bundoora, 3083, Australia
SO Biochemical Journal (1982), 203(3), 629-36
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English

L12 ANSWER 43 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1982:3973 CAPLUS
DN 96:3973
TI The digestive enzymes of detritus-feeding stonefly nymphs (Plecoptera; Pteronarcyidae)
AU Martin, M. M.; Martin, J. S.; Kukor, J. J.; Merritt, R. W.
CS Div. Biol. Sci., Univ. Michigan, Ann Arbor, MI, 48109, USA
SO Canadian Journal of Zoology (1981), 59(10), 1947-51
CODEN: CJZOAG; ISSN: 0008-4301
DT Journal
LA English

L12 ANSWER 44 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1981:616927 CAPLUS
DN 95:216927

TI Studies on potato tuber phosphorylase catalyzed reaction in the absence of an exogenous acceptor. II. Characterization of the reaction product
AU Sivak, Mirta N.; Tandecarz, Juana S.; Cardini, Carlos E.
CS Fac. Cienc. Exactas Nat., Inst. Invest. Bioquim. "Fundacion Campomar", Buenos Aires, 1428, Argent.
SO Archives of Biochemistry and Biophysics (1981), 212(2), 537-45
CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English

L12 ANSWER 45 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1981:153703 CAPLUS
DN 94:153703
TI Digestive enzymes of fungus-feeding beetles
AU Martin, M. M.; Kukor, J. J.; Martin, J. S.; O'Toole, T. E.; Johnson, M. W.
CS Div. Biol. Sci., Univ. Michigan, Ann Arbor, MI, 48109, USA
SO Physiological Zoology (1981), 54(1), 137-45
CODEN: PHZOA9; ISSN: 0031-935X
DT Journal
LA English

L12 ANSWER 46 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1981:98693 CAPLUS
DN 94:98693
TI .beta.-1,3-1,4-Glucanase in sporeforming microorganisms. III. Substrate specificity and action patterns of some Bacillus .beta.-glucan hydrolases
AU Borriss, R.; Zemek, J.
CS Forschungsabte., VEB Prowiko Schoenebeck, Schoenebeck, Ger. Dem. Rep.
SO Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 2, Naturwissenschaftliche: Mikrobiologie der Landwirtschaft, der Technologie und des Umweltschutzes (1980), 135(8), 696-703
CODEN: ZBPUDE; ISSN: 0323-6056
DT Journal
LA German

L12 ANSWER 47 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1977:70040 CAPLUS
DN 86:70040
TI Formation of ethyl .alpha.-D-glucoside in sake brewing
AU Oka, Satoru; Iwano, Kimio; Nunokawa, Yataro
CS Fac. Eng., Hiroshima Univ., Hiroshima, Japan
SO Nippon Nogei Kagaku Kaishi (1976), 50(10), 463-8
CODEN: NNKKAA; ISSN: 0002-1407
DT Journal
LA Japanese

L12 ANSWER 48 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1976:71546 CAPLUS
DN 84:71546
TI The relation of plant **enzyme**-catalysed .beta.-(1,4)-glucan synthesis to cellulose biosynthesis in vivo
AU Villemez, C. L.
CS Dep. Chem., Univ. Wyoming, Laramie, WY, USA
SO Annual Proceedings of the Phytochemical Society (1974), 10(Plant Carbohydr. Biochem.), 183-9
CODEN: APPHCZ; ISSN: 0309-9393
DT Journal
LA English

L12 ANSWER 49 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1975:53203 CAPLUS

DN 82:53203
TI Properties of glucosyltransferase and glucan transferase from spinach
AU Linden, James C.; Tanner, Widmar; Kandler, Otto
CS Bot. Inst., Univ. Muenchen, Munich, Fed. Rep. Ger.
SO Plant Physiology (1974), 54(5), 752-7
CODEN: PLPHAY; ISSN: 0032-0889
DT Journal
LA English

L12 ANSWER 50 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1972:123324 CAPLUS
DN 76:123324
TI .beta.-1,3-Glucan hydrolase from Nicotiana glutinosa. II. Specificity, action pattern, and inhibitor studies
AU Moore, A. E.; Stone, B. A.
CS Russell Grimwade Sch. Biochem., Univ. Melbourne, Parkville, Australia
SO Biochimica et Biophysica Acta (1972), 258(1), 248-64
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English

=> d l12 10-29

L12 ANSWER 10 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 2000:175946 CAPLUS
DN 132:218867
TI Cloning amylosucrase gene from Neisseria and its use in biosynthetic production
IN Quanz, Martin; Provart, Nicholas
PA Planttec Biotechnologie G.m.b.H., Germany
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000014249	A1	20000316	WO 1998-EP5573	19980902
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2342124	AA	20000316	CA 1998-2342124	19980902
AU 9895357	A1	20000327	AU 1998-95357	19980902
EP 1109916	A1	20010627	EP 1998-948899	19980902
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002524080	T2	20020806	JP 2000-568990	19980902
PRAI WO 1998-EP5573	A	19980902		

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 11 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 2000:152497 CAPLUS
DN 133:55262
TI Isolation and analysis of two cellulase cDNAs from Orpinomyces joyonii
AU Qiu, X.; Selinger, B.; Yanke, L.-J.; Cheng, K.-J.

CS Agriculture and Agri-Food Canada, Lethbridge Research Station, Lethbridge, AB, Can.
SO Gene (2000), 245(1), 119-126
CODEN: GENED6; ISSN: 0378-1119
PB Elsevier Science B.V.
DT Journal
LA English
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 12 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 2000:107478 CAPLUS
DN 132:262065
TI Structure and Binding Specificity of the Second N-Terminal Cellulose-Binding Domain from Cellulomonas fimi Endoglucanase C
AU Brun, Emmanuel; Johnson, Philip E.; Creagh, A. Louise; Tomme, Peter; Webster, Philip; Haynes, Charles A.; McIntosh, Lawrence P.
CS Protein Engineering Network of Centres of Excellence Department of Biochemistry and Molecular Biology Department of Chemistry The Biotechnology Laboratory Department of Chemical Engineering and Department of Microbiology and Immunology, The University of British Columbia, Vancouver, BC, V6T 1Z3, Can.
SO Biochemistry (2000), 39(10), 2445-2458
CODEN: BICHAW; ISSN: 0006-2960
PB American Chemical Society
DT Journal
LA English
RE.CNT 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 13 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1999:780341 CAPLUS
DN 132:1190
TI Endotoxin-specific assay
IN Loverock, Bruce
PA BioWhitaker Technologies, USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5998389	A	19991207	US 1998-81659	19980520
	JP 2000002708	A2	20000107	JP 1999-139410	19990520
PRAI	US 1998-81659		19980520		

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 14 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1999:645074 CAPLUS
DN 132:61592
TI Multiple endo-1,4-.beta.-D-glucanase (cellulase) genes in Arabidopsis
AU Del Campillo, Elena
CS Department of Cell Biology and Molecular Genetics, University of Maryland at College Park, College Park, MD, 20742, USA
SO Current Topics in Developmental Biology (1999), 46, 39-61
CODEN: CTDBA5; ISSN: 0070-2153
PB Academic Press
DT Journal; General Review
LA English
RE.CNT 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 15 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1999:287946 CAPLUS
DN 131:127037
TI Characterization of the Bacillus macerans cyclodextrin glucanotransferase overexpressed in Escherichia coli
AU Jeang, Chii-Ling; Wung, Chiung-Hua; Chang, Ban-Yang; Yeh, Sheng-Shyong; Lour, Duah-Wern
CS Department of Food Science, National Chung Hsing University, Taichung, Taiwan
SO Proceedings of the National Science Council, Republic of China, Part B: Life Sciences (1999), 23(2), 62-68
CODEN: PNBSEF; ISSN: 0255-6596
PB National Science Council, Republic of China
DT Journal
LA English
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 16 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1998:457540 CAPLUS
DN 129:106534
TI Proceedings of the symposium on amylases and related enzymes, 1997. The role of D-**enzyme** in starch metabolism in plants
AU Takaha, Takeshi; Okada, Shigetaka; Smith, Steven M.
CS Biochem. Res. Lab., Ezaki Glico Co., Ltd., Osaka, 555-8502, Japan
SO Oyo Toshitsu Kagaku (1998), 45(2), 169-175
CODEN: OTKAE3; ISSN: 1340-3494
PB Nippon Oyo Toshitsu Kagakkai
DT Journal; General Review
LA Japanese

L12 ANSWER 17 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1998:396749 CAPLUS
DN 129:132850
TI Bacterial cyclodextrin glucanotransferase
AU Tonkova, Alexandra
CS Department of Extremophilic Bacteria, Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, 1113, Bulg.
SO Enzyme and Microbial Technology (1998), 22(8), 678-686
CODEN: EMTED2; ISSN: 0141-0229
PB Elsevier Science Inc.
DT Journal; General Review
LA English
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 18 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1997:660307 CAPLUS
DN 127:342438
TI Isolation and overexpression of a gene encoding an extracellular .beta.-(1,3-1,4)-glucanase from Streptococcus bovis JB1
AU Ekinci, M. Sait; Mccrae, Sheila I.; Flint, Harry J.
CS Rowett Research Institute, Aberdeen, AB21 9SB, UK
SO Applied and Environmental Microbiology (1997), 63(10), 3752-3756
CODEN: AEMIDF; ISSN: 0099-2240
PB American Society for Microbiology
DT Journal
LA English

L12 ANSWER 19 OF 50 CAPLUS COPYRIGHT 2003 ACS

AN 1997:568887 CAPLUS
DN 127:261734
TI Starch biosynthesis and modification of starch structure in transgenic plants
AU Kossmann, J.; Buttcher, V.; Abel, G. J. W.; Duwenig, E.; Emmermann, M.; Frohberg, C.; Lloyd, J. R.; Lorberth, R.; Springer, F.; Welsh, T.; Willmitzer, L.
CS Max-Planck-Institut Molekulare Pflanzenphysiologie, Golm, D-14476, Germany
SO Macromolecular Symposia (1997), 120(Functional Polysaccharides II), 29-38
CODEN: MSYMEC; ISSN: 1022-1360
PB Huethig & Wepf
DT Journal
LA English

L12 ANSWER 20 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1997:414491 CAPLUS
DN 127:146424
TI Cyclodextrins are not the major cyclic .alpha.-**1,4-glucans** produced by the initial action of cyclodextrin glucanotransferase on amylose
AU Terada, Yoshinobu; Yanase, Michiyo; Takata, Hiroki; Takaha, Takeshi; Okada, Shigetaka
CS Biochem. Research Lab., Ezaki Glico Co., Ltd., Osaka, 555, Japan
SO Journal of Biological Chemistry (1997), 272(25), 15729-15733
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English

L12 ANSWER 21 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1997:316409 CAPLUS
DN 127:45735
TI Cloning and characterization of the gene for amylosucrase from Neisseria polysaccharea: production of a linear .alpha.-1,4-glucan
AU Buttcher, Volker; Welsh, Thomas; Willmitzer, Lothar; Kossmann, Jens
CS Inst. Genbiologische Forschung GmbH Berlin, Berlin, D-14195, Germany
SO Journal of Bacteriology (1997), 179(10), 3324-3330
CODEN: JOBAAY; ISSN: 0021-9193
PB American Society for Microbiology
DT Journal
LA English

L12 ANSWER 22 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1996:99093 CAPLUS
DN 124:196925
TI Cyclic .alpha.-1,4-glucan formation by bacterial .alpha.-amylases
AU Nishimura, Takahisa; Kometani, Takashi; Nakae, Takashi; Takii, Hiroshi; Okada, Shigetaka
CS Biochem. Res. Lab., Ezaki Glico Co. Ltd., Osaka, 555, Japan
SO Journal of Fermentation and Bioengineering (1996), 81(1), 26-31
CODEN: JFBIEX; ISSN: 0922-338X
PB Society for Fermentation and Bioengineering, Japan
DT Journal
LA English

L12 ANSWER 23 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1996:50434 CAPLUS
DN 124:78735
TI Cloning and expression of Neisseria amylosucrase cDNA and production of alpha-**1,4-glucans** with plants, yeast, and microbes
IN Kosmann, Jens; Buettcher, Volker; Welsh, Thomas

PA Institut fuer Genbiologische Forschung Berlin GmbH, Germany
SO Ger. Offen., 42 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4417879	A1	19951123	DE 1994-4417879	19940518
	CA 2190149	AA	19951123	CA 1995-2190149	19950518
	AU 9526141	A1	19951205	AU 1995-26141	19950518
	AU 699552	B2	19981210		
	EP 759993	A1	19970305	EP 1995-920833	19950518
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	HU 76087	A2	19970630	HU 1996-3170	19950518
	JP 10500297	T2	19980113	JP 1995-529377	19950518
	US 6265635	B1	20010724	US 1997-737752	19970227
	US 2002092040	A1	20020711	US 2001-843007	20010426
PRAI	DE 1994-4417879	A	19940518		
	DE 1994-4447388	A	19941222		
	WO 1995-EP1893	W	19950518		
	US 1997-737752	A3	19970227		

L12 ANSWER 24 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:999827 CAPLUS
DN 124:90189
TI Treatments containing alkyl glycosides and cellulase for cellulosic fibers and the process
IN Kinomura, Keisuke; Fukushima, Sumyo; Okumura, Masakazu; Tsucha, Akito
PA Nippon Shoe, Japan; Rakuto Kasei Ind
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07258692	A2	19951009	JP 1994-53744	19940324
	JP 3409119	B2	20030526		
PRAI	JP 1994-53744		19940324		

L12 ANSWER 25 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:998779 CAPLUS
DN 124:53889
TI Formation, analysis, structure and properties of type III **enzyme** resistant starch
AU Eerlingen, R. C.; Delcour, J. A.
CS Research Unit Food Chemistry, Katholieke Universiteit Leuven, Heverlee, B-3001, Belg.
SO Journal of Cereal Science (1995), 22(2), 129-38
CODEN: JCSCDA; ISSN: 0733-5210
PB Academic
DT Journal; General Review
LA English

L12 ANSWER 26 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:766561 CAPLUS
DN 123:167659
TI Enzymic synthesis of .alpha.-glucose-1-phosphate: a study employing a new .alpha.-1,4 glucan phosphorylase from Corynebacterium callunae
AU Nidetzky, Bernd; Weinhaeusel; Griessler, Richard; Kulbe, Klaus D.
CS Division Biochemical Engineering, Institute Food Technology, University

Agriculture, Vienna, A-1190, Austria
SO Journal of Carbohydrate Chemistry (1995), 14(7), 1017-28
CODEN: JCACDM; ISSN: 0732-8303
PB Dekker
DT Journal
LA English

L12 ANSWER 27 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:541238 CAPLUS
DN 123:29155
TI Ascopyrones P and T: two new compounds made during "active" ascomycete metabolism
AU Baute, Marie-Antoinette; Deffieux, Gerard; Baute, Robert; Vercauteren, Joseph
CS Faculte Pharmacie, Universite Bordeaux II, Bordeaux, 33000, Fr.
SO Ars Pharmaceutica (1992), 33(1-4, Vol. 1), 440-6
CODEN: APHRAN; ISSN: 0004-2927
PB Universidad de Granada, Facultad de Farmacia
DT Journal
LA French

L12 ANSWER 28 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:468321 CAPLUS
DN 122:235504
TI Direct in situ identification of cellulose microfibrils associated with Rhizobium leguminosarum biovar trifolii attached to the root epidermis of white clover
AU Mateos, Pedro F.; Baker, David L.; Philip-Hollingsworth, Saleela; Squartini, Andrea; Peruffo, Angelo D. B.; Nuti, Marco P.; Dazzo, Frank B.
CS Dep. Microbiol., Michigan State Univ., East Lansing, MI, 48824, USA
SO Canadian Journal of Microbiology (1995), 41(2), 202-7
CODEN: CJMIAZ; ISSN: 0008-4166
PB National Research Council of Canada
DT Journal
LA English

L12 ANSWER 29 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:282690 CAPLUS
DN 122:75267
TI Isolation of extracellular 28- and 42-kilodalton .beta.-1,3-glucanases and comparison of three .beta.-1,3-glucanases produced by Bacillus circulans IAM1165
AU Aono, Rikizo; Hammura, Masahiro; Yamamoto, Mami; Asano, Takeshi
CS Fac. Biosci. Biotechnology, Tokyo Inst. Technology, Yokohama, 226, Japan
SO Applied and Environmental Microbiology (1995), 61(1), 122-9
CODEN: AEMIDF; ISSN: 0099-2240
PB American Society for Microbiology
DT Journal
LA English

=> d l12 47 all

L12 ANSWER 47 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1977:70040 CAPLUS
DN 86:70040
TI Formation of ethyl .alpha.-D-glucoside in sake brewing
AU Oka, Satoru; Iwano, Kimio; Nunokawa, Yataro
CS Fac. Eng., Hiroshima Univ., Hiroshima, Japan
SO Nippon Nogei Kagaku Kaishi (1976), 50(10), 463-8
CODEN: NNKKAA; ISSN: 0002-1407
DT Journal

LA Japanese
CC 16-3 (Fermentations)
AB Ethyl .alpha.-D-glucoside (I) [19467-01-7] was formed in the regular process of sake brewing, but only in slight amts. in a modified process where koji was replaced with a mixt. of fungal **enzyme** prepns. A partially purified **enzyme** prepn. of koji catalyzed the formation of I from EtOH and .alpha.-**1,4-glucans**. The formation of I was attributed to the transglucosidase activity of koji **enzyme**.
ST ethyl glucoside sake
IT Sake
(ethyl glucoside formation in)
IT 19467-01-7
RL: FORM (Formation, nonpreparative)
(formation of, in sake brewing)

=> d l12 46 all

L12 ANSWER 46 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1981:98693 CAPLUS
DN 94:98693
TI .beta.-1,3-1,4-Glucanase in sporeforming microorganisms. III. Substrate specificity and action patterns of some Bacillus .beta.-glucan hydrolases
AU Borriss, R.; Zemek, J.
CS Forschungsabte., VEB Prowiko Schoenebeck, Schoenebeck, Ger. Dem. Rep.
SO Zentralblatt fuer Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, Abteilung 2, Naturwissenschaftliche: Mikrobiologie der Landwirtschaft, der Technologie und des Umweltschutzes (1980), 135(8), 696-703
CODEN: ZBPUDE; ISSN: 0323-6056
DT Journal
LA German
CC 7-3 (Enzymes)
Section cross-reference(s): 10
AB Comparative investigations were carried out concerning substate specificity and action patterns of 7 Bacillus endo-.beta.-glucanases produced by the species B. subtilis, B. macerans, B. amyloliquefaciens, B. circulans, B. laterosporus, B. pumilus, and B. polymyxa. All enzymes with the exception of .beta.-glucanase from B. macerans hydrotlyzed only lichenan and barley .beta.-glucan and were without action on laminaran and CM-cellulose. It was suggested that hydrolysis products of .beta.-glucanase produced by B. macerans were markedly different from the products of the other enzymes. Apparently, the B. macerans **enzyme**, which cleaves laminaran and .beta.-1,3-**1,4-glucans**, represents a laminarinase (EC. 3.2.1.6). On the other hand, the glucanases produced by the other Bacillus strains correspond to licheninases (EC. 3.2.1.73).
ST endoglucanase beta Bacillus; glucanase beta Bacillus; laminarinase Bacillus; licheninase Bacillus
IT Bacillus
(endo-.beta.-glucanases of, substrate specificity of)
IT 62213-14-3
RL: BIOL (Biological study)
(of Bacillus macerans, substrate specificity of)
IT 37288-51-0
RL: BIOL (Biological study)
(of Bacillus, substrate specificity of)

=> d l12 40 all

L12 ANSWER 40 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1984:117964 CAPLUS
DN 100:117964
TI A debranching **enzyme** deficiency in endosperms of the sugary-1 mutants of maize
AU Pan, David; Nelson, Oliver E.
CS Dep. Genet., Univ. Wisconsin, Madison, WI, 53706, USA
SO Plant Physiology (1984), 74(2), 324-8
CODEN: PLPHAY; ISSN: 0032-0889
DT Journal
LA English
CC 11-4 (Plant Biochemistry)
AB Many of the sugary-1 mutants of corn (Zea mays) have the highly branched water-sol. polysaccharide, phytoglycogen, in quantities equal to or greater than starch as an endosperm storage product in mature seeds. All sugary mutants investigated are deficient in debranching **enzyme** [.alpha.-(1,6)-glucosidase] activity in endosperm tissue 23 days postpollination and it is suggested that this deficiency is the primary biochem. lesion leading to phytoglycogen accumulation in sugary endosperms. This would indicate that the amylopectin component of starch depends on an equil. between the activities of branching enzymes introducing .alpha.-1,6 branch points into the linear .alpha.-**1, 4 glucans** and debranching enzymes. The debranching **enzyme** activities from nonsugary endosperms can be sepd. into 3 peaks on a hydroxylapatite column. The sugary endosperm exts. lack 1 of these peaks of activity whereas the other 2 fractions have reduced activity. The embryos of developing seeds (23 days after pollination) from both sugary and nonsugary genotypes have equiv. debranching activity. The debranching **enzyme** activity of developing endosperms is proportional to the no. of copies (0 to 3) of the nonmutant (Su) allele present suggesting that the Su allele may be the structural gene for this debranching **enzyme**, although this is not definitive. This identification of debranching **enzyme** activity as being the biochem. lesion in sugary endosperms is consistent with several previous observations on the mutant.
ST corn sugary mutant glucosidase deficiency
IT Corn
(sugary-1 mutant of, debranching **enzyme** deficiency in endosperm of)
IT Gene and Genetic element, plant
RL: BIOL (Biological study)
(sugary-1, of corn, debranching **enzyme** deficiency in endosperm in relation to)
IT 37288-48-5
RL: BIOL (Biological study)
(of corn sugary-1 mutant, deficiency in)

=> d l12 24 all

L12 ANSWER 24 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1995:999827 CAPLUS
DN 124:90189
TI Treatments containing alkyl glycosides and cellulase for cellulosic fibers and the process
IN Kinomura, Keisuke; Fukushima, Sumyo; Okumura, Masakazu; Tsucha, Akito
PA Nippon Shoe, Japan; Rakuto Kasei Ind
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C11D003-386

ICS C11D001-66; C11D007-42; D06M016-00
ICA C12N009-42; D06L001-12
CC 40-7 (Textiles and Fibers)
Section cross-reference(s): 7
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07258692	A2	19951009	JP 1994-53744	19940324
	JP 3409119	B2	20030526		
PRAI	JP 1994-53744		19940324		

AB Title treatments, useful for modification of fiber surface appearance, etc., contain C4-24 linear or branched alkyl glycosides and enzymes having hydrolysis activity for .beta.-**1,4-glucans** and cellulosic fibers. Thus, a cotton fabric was treated in a bath contg. 2 g/L Enchiron CM 40L (cellulase) and 0.2 g/L AG 8 (octyl glycoside) and resulted in no fiber dust after washing.
ST cellulosic fiber **enzyme** cellulase treatment; alkyl glycoside cellulase cellulosic fiber; glucan hydrolysis **enzyme** cellulosic fiber; surface modification cotton cellulase glycoside
IT Cotton
(treatments contg. cellulase and alkyl glycosides for cellulosic fibers)
IT Rayon, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(treatments contg. cellulase and alkyl glycosides for cellulosic fibers)
IT 29836-26-8, AG 8
RL: MOA (Modifier or additive use); USES (Uses)
(AG 8; treatments contg. cellulase and alkyl glycosides for cellulosic fibers)
IT 9012-54-8, Cellulase 160995-61-9, Enchiron CM 40L
RL: TEM (Technical or engineered material use); USES (Uses)
(treatments contg. cellulase and alkyl glycosides for cellulosic fibers)

=> d l12 23 all

L12 ANSWER 23 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1996:50434 CAPLUS
DN 124:78735
TI Cloning and expression of Neisseria amylosucrase cDNA and production of alpha-**1,4-glucans** with plants, yeast, and microbes
IN Kosmann, Jens; Buettcher, Volker; Welsh, Thomas
PA Institut fuer Genbiologische Forschung Berlin GmbH, Germany
SO Ger. Offen., 42 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C12N015-54
ICS C12N015-82; A01H001-06; A01H005-00; C12N005-10; C12N001-21; C12N015-81; C12N001-19; C12N001-00; C12N009-10
ICA C12N015-70; C08B030-20
ICI C12N015-54, C12R001-36; C12N001-21, C12R001-19; C12N015-81, C12R001-865; C12N001-19, C12R001-865
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 10
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4417879	A1	19951123	DE 1994-4417879	19940518

	CA 2190149	AA	19951123	CA 1995-2190149	19950518
	AU 9526141	A1	19951205	AU 1995-26141	19950518
	AU 699552	B2	19981210		
	EP 759993	A1	19970305	EP 1995-920833	19950518
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	HU 76087	A2	19970630	HU 1996-3170	19950518
	JP 10500297	T2	19980113	JP 1995-529377	19950518
	US 6265635	B1	20010724	US 1997-737752	19970227
	US 2002092040	A1	20020711	US 2001-843007	20010426
PRAI	DE 1994-4417879	A	19940518		
	DE 1994-4447388	A	19941222		
	WO 1995-EP1893	W	19950518		
	US 1997-737752	A3	19970227		

AB The sequence of N. polysaccharea amylosucrase cDNA and of the **enzyme** are described. Plants, yeast, or microbes expressing this cDNA may be used to prep. .alpha.-**1,4-glucans**. Recombinant Escherichia coli secreting the N. polysaccharea amylosucrase were prepd. These recombinant bacteria converted sucrose to linear .alpha.-1,4-glucan.

ST Neisseria amylosucrase cDNA sequence; glucan manuf recombinant plant yeast microorganism

IT Neisseria
Neisseria polysaccharea
Plasmid and Episome
(cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Protein sequences
(of amylosucrase of Neisseria polysaccharea)

IT Bacteria
Escherichia coli
Microorganism
Plant cell
Saccharomyces cerevisiae
Yeast
(recombinant; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Corn
Oat
Plant
Potato
Rice
Sugarcane
Tobacco
Tomato
Wheat
(transgenic; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Deoxyribonucleic acid sequences
(complementary, for amylosucrase of Neisseria polysaccharea)

IT Plasmid and Episome
(pNB2, cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT Beet
(sugar, transgenic; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 172725-89-2P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 9051-96-1P, .alpha.-1,4-Glucan
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 9032-11-5P, Amylosucrase
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

IT 172725-90-5
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; cloning and expression of Neisseria amylosucrase cDNA and prodn. of alpha-**1,4-glucans** with plants, yeast, and microbes)

=> d l12 22 all

L12 ANSWER 22 OF 50 CAPLUS COPYRIGHT 2003 ACS
AN 1996:99093 CAPLUS
DN 124:196925
TI Cyclic .alpha.-1,4-glucan formation by bacterial .alpha.-amylases
AU Nishimura, Takahisa; Kometani, Takashi; Nakae, Takashi; Takii, Hiroshi; Okada, Shigetaka
CS Biochem. Res. Lab., Ezaki Glico Co. Ltd., Osaka, 555, Japan
SO Journal of Fermentation and Bioengineering (1996), 81(1), 26-31
CODEN: JFBIEX; ISSN: 0922-338X
PB Society for Fermentation and Bioengineering, Japan
DT Journal
LA English
CC 7-3 (Enzymes)
AB Cyclic .alpha.-1,4-glucan formation from synthetic amylose by hydroquinone-glucosylating **enzyme** (HGE), which is a saccharifying .alpha.-amylase, was investigated. Upon anal. of reaction products from synthetic amylose, glucans which were not hydrolyzed by glucoamylase were detected with high-performance anion-exchange chromatog. in reaction mixts. The glucans were hydrolyzed by HGE to maltooligosaccharides and hydrolyzed to glucose by the combination of HGE and glucoamylase. From these results, these glucans might be considered to be cyclic .alpha.-**1,4-glucans**. In order to demonstrate that these glucans were cyclic .alpha.-**1,4-glucans**, the phenol-sulfate test, Somogyi-Nelson test, and tritium labeling test of reducing ends were conducted. From the results of these tests, it was confirmed that these compds. were saccharides and did not have reducing ends. Furthermore, the mol. wt. of each glucan was detd. using TOF-mass spectrometry. Each mol. wt. agreed with that of the cyclic glucans theor. calcd. One of these glucans was purified and was identified to be .gamma.-cyclodextrin. These results demonstrate that HGE formed cyclic .alpha.-**1,4-glucans**. Cyclic .alpha.-**1,4-glucans** were also detected in reaction mixts. of bacterial saccharifying .alpha.-amylase and bacterial liquefying .alpha.-amylase.
ST cyclic glucan formation alpha amylase Bacillus
IT Bacillus subtilis

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        (X-23; cyclic .alpha.-1,4-glucan formation by bacterial
        .alpha.-amylases)
IT   12619-70-4, Cyclodextrin   17465-86-0, .gamma.-Cyclodextrin
     RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL
     (Biological study); FORM (Formation, nonpreparative)
        (cyclic .alpha.-1,4-glucan formation by bacterial .alpha.-amylases)
IT   9000-90-2, .alpha.-Amylase
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); BIOL (Biological study)
        (saccharifying; cyclic .alpha.-1,4-glucan formation by bacterial
        .alpha.-amylases)


=>  d his

     (FILE 'HOME' ENTERED AT 15:09:17 ON 09 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 15:09:27 ON 09 JUN 2003
L1           517 S AMYLOSE
L2             0 S POLY ALPHA GLUCAN
L3             0 S POLYLUCAN
L4             2 S POLY GLUCAN

     FILE 'CAPLUS' ENTERED AT 15:11:04 ON 09 JUN 2003
L5          9799 S AMYLOSE
                 E AMYLOSE
                 E INSOLUBLE
L6         13180 S E3
L7            35 S L5 AND L6
L8           110 S 1 4 GLUCANS
L9             7 S L8 AND L4
L10            7 S L9 NOT L7
                 E ENZYME
L11       675695 S E3
L12           50 S L8 AND L11

=> s l1
L13      138772 L1

=> s l13 and l6
L14         465 L13 AND L6

=> e linear
E1             1     LINEAPPEARANCE/BI
E2             1     LINEAPULVELLA/BI
E3        487535 --> LINEAR/BI
E4             2     LINEAR1/BI
E5             1     LINEARABLE/BI
E6             2     LINEARACCELERATOR/BI
E7             1     LINEARAITY/BI
E8             1     LINEARAL/BI
E9             2     LINEARALIZATION/BI
E10            2     LINEARALIZED/BI
E11           10     LINEARALLY/BI
E12            2     LINEARALY/BI

=> s e3
L15      487535 LINEAR/BI

=> s l14 and l15
L16          15 L14 AND L15
```

=> d l16 1-15

L16 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2003:167142 CAPLUS
DN 138:206442
TI Fiber treatment methods and water **insoluble** particle-containing fiber treatment agents and detergents
IN Nanbu, Hiroshi; Nagata, Satoshi; Watanabe, Toshiyuki
PA Lion Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003064574	A2	20030305	JP 2001-257237	20010828
PRAI	JP 2001-257237		20010828		

L16 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:161379 CAPLUS
DN 132:209379
TI Method for preparing smooth-surface spherical microparticles containing a water-**insoluble linear** polysaccharide and microparticles produced according to the method
IN Bengs, Holger; Grande, Jurgen; Schuth, Silke; Bohm, Gitte; Schneller, Arnold; Brunner, Anette
PA Aventis Research & Technologies Gmbh & Co. Kg, Germany
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000012617	A1	20000309	WO 1999-EP5929	19990813
	W: AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19839214	C1	20000525	DE 1998-19839214	19980828
	CA 2341904	AA	20000309	CA 1999-2341904	19990813
	AU 9957340	A1	20000321	AU 1999-57340	19990813
	EP 1124896	A1	20010822	EP 1999-944385	19990813
	EP 1124896	B1	20030402		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002523599	T2	20020730	JP 2000-567623	19990813
	US 2001051716	A1	20011213	US 2001-795562	20010228
PRAI	DE 1998-19839214	A	19980828		
	WO 1999-EP5929	W	19990813		

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:161356 CAPLUS
DN 132:209380
TI Production of microspheres containing water-**insoluble linear** polysaccharides
IN Bengs, Holger; Grande, Jurgen
PA Aventis Research & Technologies Gmbh & Co. Kg, Germany
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2

DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000012589	A1	20000309	WO 1999-EP5975	19990814
	W: AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19839212	A1	20000511	DE 1998-19839212	19980828
	DE 19839212	C2	20020523		
	CA 2340727	AA	20000309	CA 1999-2340727	19990814
	AU 9955167	A1	20000321	AU 1999-55167	19990814
	EP 1117730	A1	20010725	EP 1999-941623	19990814
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002523583	T2	20020730	JP 2000-567598	19990814
PRAI	DE 1998-19839212	A	19980828		
	WO 1999-EP5975	W	19990814		

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:54222 CAPLUS
DN 132:94908
TI Manufacture of spherical microparticles containing water-**insoluble**, branched polyglucan
IN Bengs, Holger; Grande, Juergen
PA Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany
SO Ger., 10 pp.
CODEN: GWXXAW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19839216	C1	20000120	DE 1998-19839216	19980828
	CA 2340222	AA	20000309	CA 1999-2340222	19990814
	WO 2000012590	A1	20000309	WO 1999-EP5976	19990814
	W: AU, CA, CN, CZ, HU, JP, KR, NO, NZ, PL, US, ZA				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9958521	A1	20000321	AU 1999-58521	19990814
	EP 1123342	A1	20010816	EP 1999-945981	19990814
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002523584	T2	20020730	JP 2000-567599	19990814
	US 6562459	B1	20030513	US 2001-786142	20010607
PRAI	DE 1998-19839216	A	19980828		
	WO 1999-EP5976	W	19990814		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1999:464342 CAPLUS
DN 131:103793
TI A detergent granule containing a water-**insoluble** disintegrant with improved dissolution and preparation thereof
IN Ramanan, Ganapathy Venkata; Hidalgo, Noe Ongcoy; Katsuda, Rinko; Inoue, Tomotaka
PA The Procter & Gamble Company, USA
SO PCT Int. Appl., 40 pp.

CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9936493	A1	19990722	WO 1998-US587	19980113
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2318511	AA	19990722	CA 1998-2318511	19980113
	AU 9858227	A1	19990802	AU 1998-58227	19980113
	BR 9814583	A	20001024	BR 1998-14583	19980113
	EP 1047759	A1	20001102	EP 1998-901788	19980113
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
	JP 2001508493	T2	20010626	JP 1999-515961	19980113
PRAI	WO 1998-US587	A	19980113		

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1997:687437 CAPLUS
DN 127:336563
TI Cyclodextrin solubilization of water-**insoluble** drugs. Calcipotriol and EB-1089
AU Loftsson, Thorsteinn; Petersen, D. S.
CS Department Pharmacy, University Iceland, Reykjavik, IS-127, Iceland
SO Pharmazie (1997), 52(10), 783-785
CODEN: PHARAT; ISSN: 0031-7144
PB Govi-Verlag Pharmazeutischer Verlag
DT Journal
LA English

L16 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1997:228755 CAPLUS
DN 126:297569
TI Regulating aspects of biosoluble and **insoluble** film release systems containing protein proteinase inhibitor
AU Balabushevitch, Nadezhda G.; Kildeyeva, Natalia R.; Moroz, Natalia A.; Trusova, Svetlana P.; Virnik, Alexander D.; Khromov, Gennady L.; Larionova, Natalia I.
CS Department of Chemistry, M. V. Lomonosov Moscow State University, Moscow, 119899, Russia
SO Applied Biochemistry and Biotechnology (1997), Volume Date 1996, 61(1/2, Biocatalysis-95), 129-138
CODEN: ABIBDL; ISSN: 0273-2289
PB Humana
DT Journal
LA English

L16 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1995:13451 CAPLUS
DN 122:33993
TI Interaction of some non-ionic tensides with **insoluble** .beta.-cyclodextrin polymer
AU Fenyvesi, E.; Cserhati, T.; Szejtli, J.
CS CYCLOLAB, Cyclodextrin Res. and Dev. Lab. Ltd., Budapest, Hung.

SO Minutes Int. Symp. Cyclodextrins, 6th (1992), 267-73. Editor(s): Hedges, Allan R. Publisher: Ed. Sante, Paris, Fr.
CODEN: 60BCAL
DT Conference
LA English

L16 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1993:525028 CAPLUS
DN 119:125028
TI Erodible matrixes containing hydroxypropyl .beta.-cyclodextrin for **linear** release of a water-**insoluble** drug (diazepam)
AU Conte, U.; Giunchedi, P.; Maggi, L.; La Manna, A.
CS Dip. Chim. Farm., Univ. Pavia, Pavia, 27100, Italy
SO S.T.P. Pharma Sciences (1993), 3(3), 242-9
CODEN: STSSE5; ISSN: 1157-1489
DT Journal
LA English

L16 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1992:46174 CAPLUS
DN 116:46174
TI The swelling of core tablets during aqueous coating I: A simple model describing extent of swelling and water penetration for **insoluble** tablets containing a superdisintegrant
AU Faroongsarng, Damrongsak; Peck, Garnet E.
CS Sch. Pharm. Pharm. Sci., Purdue Univ., West Lafayette, IN, 47907, USA
SO Drug Development and Industrial Pharmacy (1991), 17(18), 2439-55
CODEN: DDIPD8; ISSN: 0363-9045
DT Journal
LA English

L16 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1991:246168 CAPLUS
DN 114:246168
TI Determination of structural features of the water-**insoluble** dietary fiber from oats by the reductive-cleavage method
AU Heims, H.; Steinhart, H.
CS Inst. Biochem. Lebensmittelchem., Univ. Hamburg, Hamburg, D-2000/13, Germany
SO Carbohydrate Polymers (1991), 15(2), 207-14
CODEN: CAPOD8; ISSN: 0144-8617
DT Journal
LA English

L16 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1983:33385 CAPLUS
DN 98:33385
TI Monosaccharide composition of alcohol- and detergent-**insoluble** residues in maturing reed canary grass leaves
AU Bittner, Allan S.; Street, Joseph C.
CS Dep. Anim., Dairy, Vet. Sci., Utah State Univ., Logan, UT, 84322, USA
SO Journal of Agricultural and Food Chemistry (1983), 31(1), 7-10
CODEN: JAFCAU; ISSN: 0021-8561
DT Journal
LA English

L16 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1975:412684 CAPLUS
DN 83:12684
TI Lintnerized starches. Chromatographic and enzymic studies of **insoluble** residues from hydrochloric acid hydrolysis of cereal starches, particularly waxy maize [starch]

AU Robin, J. P.; Mercier, C.; Duprat, F.; Charbonniere, R.; Guilbot, A.
CS Massy, Fr.
SO Staerke (1975), 27(2), 36-45
CODEN: STRKA6; ISSN: 0038-9056
DT Journal
LA French

L16 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1974:490018 CAPLUS
DN 81:90018
TI Lintnerized starches. Gel filtration and enzymic studies of **insoluble** residues from prolonged acid treatment of potato starch
AU Robin, J. P.; Mercier, C.; Charbonniere, R.; Guilbot, A.
CS Stn. Biochim. Phys. Chim. Cereales, Institute Natl. Rech. Agron., Massy, Fr.
SO Cereal Chemistry (1974), 51(3), 389-406
CODEN: CECHAF; ISSN: 0009-0352
DT Journal
LA English

L16 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1964:39933 CAPLUS
DN 60:39933
OREF 60:7085f-g
TI Enzyme reactions in structurally restricted systems. IV. The digestion of **insoluble** substrates by hydrolytic enzymes
AU McLaren, A. D.
CS Univ. of California, Berkeley
SO Enzymologia (1963), 26(4), 237-46
CODEN: ENZYAS; ISSN: 0013-9424
DT Journal
LA Unavailable

=> d l16 15 all

L16 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1964:39933 CAPLUS
DN 60:39933
OREF 60:7085f-g
TI Enzyme reactions in structurally restricted systems. IV. The digestion of **insoluble** substrates by hydrolytic enzymes
AU McLaren, A. D.
CS Univ. of California, Berkeley
SO Enzymologia (1963), 26(4), 237-46
CODEN: ENZYAS; ISSN: 0013-9424
DT Journal
LA Unavailable
CC 57 (Enzymes)
AB cf. CA 60, 810c. Equations are derived which describe the kinetics of action of hydrolytic enzymes on insol. substrates. The assumptions are made that the enzyme is adsorbed on the surface of the substrate in accordance with a Gyani-Freundlich (G., CA 40, 23712) isotherm and that the rate of digestion is proportional to the amt. of adsorbed enzyme. Unlike Michaelis-Menten kinetics, the initial rate is not a **linear** -function of total enzyme in the system: it is, however, proportional to the surface area of the substrate in contact with solvent. The equations were applied with success to the action of hydrolytic enzymes (amylase, cellulose, trypsin) on starch granules, cellulose, protein gels, and oil emulsions. This provides the 1st kinetic description of some of the more common digestive systems in nature.
IT Proteins

(decompn., by trypsin, equations for)
IT Oils
(hydrolysis of, by enzymes, equations for)
IT Reaction kinetics and(or) Velocity
(of enzymes, calcns. for)
IT Reaction kinetics and(or) Velocity
(of hydrolysis of insol. substrates by enzymes)
IT Enzymes
(reaction kinetics of, calcns. for)
IT Hydrolases
(action on insol. substrates)
IT Amylases, .beta.-
(reaction kinetics of)
IT **9005-25-8**, Starch
(decompn., by amylase, equations for)
IT **9004-34-6**, Cellulose
(decompn., by cellulase, equations for)
IT 9002-07-7, Trypsin 9012-54-8, Cellulase
(reaction kinetics of)

=> d l16 14 all

L16 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1974:490018 CAPLUS
DN 81:90018
TI Lintnerized starches. Gel filtration and enzymic studies of **insoluble** residues from prolonged acid treatment of potato starch
AU Robin, J. P.; Mercier, C.; Charbonniere, R.; Guilbot, A.
CS Stn. Biochim. Phys. Chim. Cereales, Institute Natl. Rech. Agron., Massy, Fr.
SO Cereal Chemistry (1974), 51(3), 389-406
CODEN: CECHAF; ISSN: 0009-0352
DT Journal
LA English
CC 17-4 (Foods)
AB When percent solubilized carbohydrate was plotted against time of acid hydrolysis of potato starch up to 40 days, the curve showed an initial stage of high hydrolysis rate and a second step of low rate. Chem., x-ray, gel filtration, and enzymic studies revealed 2 major chain populations, the first with a d.p. of 25 and the second with a d.p. of 15. The former starch was singly branched while the latter occurred primarly as **linear** chains and was more acid-resistant and cryst. The **linear** chains had a length of 60 .ANG.. The branched chains were degraded rapidly and appeared not to participate in the cryst. areas. A new model of amylopectin contg. clusters of highly ordered chains of d.p. 15 is proposed.
ST potato starch granule organization; lintnerized starch granule organization
IT **9005-82-7** 9037-22-3
RL: BIOL (Biological study)
(of potato starch hydrolyzate, structure in relation to)
IT **9005-25-8**, properties
RL: PRP (Properties)
(of potatoes, structure of, hydrolysis in relation to)

=> d l16 13 all

L16 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1975:412684 CAPLUS
DN 83:12684

TI Lintnerized starches. Chromatographic and enzymic studies of **insoluble** residues from hydrochloric acid hydrolysis of cereal starches, particularly waxy maize [starch]
AU Robin, J. P.; Mercier, C.; Duprat, F.; Charbonniere, R.; Guilbot, A.
CS Massy, Fr.
SO Staerke (1975), 27(2), 36-45
CODEN: STRKA6; ISSN: 0038-9056
DT Journal
LA French
CC 44-5 (Industrial Carbohydrates)
AB Native cereal starches, particularly waxy corn starch, were hydrolyzed at 35.degree. with 2.2N HCl in a heterogeneous phase and the kinetic values showed 2 phases in hydrolysis, a fast hydrolysis of the amorphous fraction and a slower degrdn. of the cryst. starch grain fraction. The hydrolysis rate of acid resistant fractions became slower as the apparent amylose ratio increased. Lintnerization decreased the apparent d.p. of the chains of the starch residues and 2 subgroups with apparent d.p. 13 and 25 appeared rapidly. After debranching of solubilized starch residues with pullulanase [9075-68-7] and gel chromatog., a **linear** chain subgroup of d.p. 15-20 appeared. A parallelism between cryst. patterns of native starches and the amylopectin structure, particularly its branching degree, was obsd.
ST lintnerization starch; hydrolysis cereal starch
IT Chains, chemical
(branching of, of amylopectin)
IT Crystal structure
(of starch, hydrolysis effect on)
IT Kinetics of hydrolysis
(of starch, with hydrochloric acid, lintnerization in relation to)
IT **9005-25-8**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, with hydrochloric acid, kinetics of)
IT 7647-01-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis with, of starch, kinetics of)
IT 9000-91-3 9075-68-7
RL: USES (Uses)
(lintnerized starches treated with, debranching in relation to)
IT 9037-22-3
RL: PRP (Properties)
(structure of, cryst. patterns of native starches in relation to)

=> d l16 12 all

L16 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1983:33385 CAPLUS
DN 98:33385
TI Monosaccharide composition of alcohol- and detergent-**insoluble** residues in maturing reed canary grass leaves
AU Bittner, Allan S.; Street, Joseph C.
CS Dep. Anim., Dairy, Vet. Sci., Utah State Univ., Logan, UT, 84322, USA
SO Journal of Agricultural and Food Chemistry (1983), 31(1), 7-10
CODEN: JAFCAU; ISSN: 0021-8561
DT Journal
LA English
CC 17-12 (Food and Feed Chemistry)
Section cross-reference(s): 11
AB Total cell wall sugars and hemicellulosic sugars of reed canarygrass leaves (Phalaris arundinacea) increased with increasing plant maturity. The predominant hemicellulosic polymers appeared to be xylans. Neutral detergent residues contained less noncellulosic sugars than the 80% EtOH

insol. residues. Neutral detergent may have solubilized acidic hemicellulosic polysaccharides in addn. to pectic polysaccharides. The acid detergent residues contained considerable amts. of arabinose, xylose, and uronic acids. The high xylose/arabinose ratio present in the acid detergent fiber residues may reflect the presence of **linear** xylans assocd. with cellulose [**9004-34-6**] in a manner sufficient to render the xylans resistant to dil. acid hydrolysis. As a result, the detergent methods underestimated total hemicellulose [9034-32-6] in the leaves of maturing reed canarygrass. Hydrolysis of alc.-insol. residues with 72% H2SO4 followed by diln. to 2N is proposed as a means for estg. noncellulosic polysaccharides.

ST fiber canarygrass growth; polysaccharide canarygrass growth; cell wall carbohydrate canarygrass growth; Phalaris leaf polysaccharide growth

IT Phalaris arundinacea
(fiber compn. of leaves of, during growth)

IT Cell wall
(of reed canarygrass leaves, during growth, compn. of)

IT Carbohydrates and Sugars, biological studies
Polysaccharides, biological studies
RL: BIOL (Biological study)
(of reed canarygrass leaves, during growth, nutritional fiber evaluation in relation to)

IT Dietary fiber
(of reed canarygrass, compn. and evaluation of, during growth)

IT Plant growth and development
(of reed canarygrass, leaf fiber compn. in)

IT **9004-34-6**, biological studies 9014-63-5 9034-32-6
RL: BIOL (Biological study)
(of reed canarygrass leaves, during growth, nutritional fiber evaluation in relation to)

=> d his

(FILE 'HOME' ENTERED AT 15:09:17 ON 09 JUN 2003)

FILE 'REGISTRY' ENTERED AT 15:09:27 ON 09 JUN 2003

L1	517	S	AMYLOSE
L2	0	S	POLY ALPHA GLUCAN
L3	0	S	POLYLUCAN
L4	2	S	POLY GLUCAN

FILE 'CAPLUS' ENTERED AT 15:11:04 ON 09 JUN 2003

L5	9799	S	AMYLOSE
		E	AMYLOSE
		E	INSOLUBLE
L6	13180	S	E3
L7	35	S	L5 AND L6
L8	110	S	1 4 GLUCANS
L9	7	S	L8 AND L4
L10	7	S	L9 NOT L7
		E	ENZYME
L11	675695	S	E3
L12	50	S	L8 AND L11
L13	138772	S	L1
L14	465	S	L13 AND L6
		E	LINEAR
L15	487535	S	E3
L16	15	S	L14 AND L15

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	234.46	268.77

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-18.88	-18.88

STN INTERNATIONAL LOGOFF AT 16:21:06 ON 09 JUN 2003